# Distance Education

SWAPNA BORAH

Distance education is a system of non-formal education in its own right. It has its own philosophy, its own methodology and its own goals.

It is described as correspondance education, Open Education, Open learning and characterised by relaxed entry qualification, learning according to ones own pace and convenience, freedom of choice of courses and use of most modern and appropriate educational and comunicational technology.

The present volume is a collection of thirty articles on various aspects of the system by well known scholars to give a complete background of this system, the system which does not compete with the formal system but supliments it and cater the section of society which either being located in far flung and remote areas or because of economics compulsions cannot take advantage of formal system.

During the last two decades this system has made a remarkable progress and it needs an analysis.

This book will provide this oportunity to the students and scholars working in this field.

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# Editors Note

Distance Education has been variously described as correspondence education, open education, open learning, etc. It is characterised by relaxed or no rigid entry qualifications, learning according to one's own pace and convenience, flexibility in the choice of courses, and use of most modern and appropriate educational and communication technology. Distance education has made quite a headway during the last two decades. About 40 Universities are now offering various courses through this mode of education. It is therefore time that we should took a critical view at the courses offered, most of which are in the nature of correspondence courses. It is in this context that I decided to collect various available articles on Distance Education written by eminent scholars and authorities on the subject and I hope that this book will not only provide the background but also the guidelines for future growth and development of Distance Education. There are however things which require to be stated and grasped very clearly. The, Distance Education is not to be seen as a poor relation or a distant cousin of the formal system. It is a system of non-formal education in its own right. It has its own philosophy, its own goals and its own methodology. If the formal system has served the society fruitfully, so does the system of Distance Education hope to do. It does not compete with the formal system, but supplements it. It caters to those sections of society which either being located in far-flung remote areas, or because of economic compulsions cannot take advantage of the formal system. It also provides another opportunity to those members of the community who have had to discontinue their education at one point or the other because of any reason whatsoever. Distance Education thus deserves to be provided for adequately and offered all facilities to take roots. No system of Distance Education, howsoever well planned and well organised, will succeed in the absence of adequate Student Support Services. These services include study centres providing for guidance and counselling services, and libraries. A network of public libraries is a pre-condition for the success of any Distance Education programme.

The New Education Policy also calls for the development and growth of Distance Education. Setting up of the Indira Gandhi National Open University is therefore very welcome. It is also heartening to note that a number of States like Maharashtra, West Bengal, Madhya Pradesh, Bihar and Uttar Pradesh are also planning to set up Open Universities on the lines of Andhra Pradesh Open University. It is however important that there should be a well defined relationship between the Indira Gandhi National Open University and the State open universities and the two should act in close coordination. The spheres of activities of the Institutes of Correspondence Courses or the Directorates of Correspondence Education functioning in various universities and those of the Open Universities also require to be looked into and properly demarcated.

In the end, acknowledgement must be made to the publishers of University News, who published many good articles on the subject and various contributors, my thanks are due to all of them. My special thanks are due to Hardeep Singh Juneja for undertaking the publication of this book.

*D.D. Collage*
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## 1

# Concept of Distance Education and its Relevance to India

DR. (MRS.) LAKSHMI MISRA*

The concept of distance education has emerged as a result of man's search for an education which could be provided to a person at home. 'Necessity is the mother of invention' is too well known a proveb to be elicited. In the days gone by; education from a distance was never thought of, because teachers were available to teach those who wanted to quench their thirst for knowledge. Not every body was interested in higher education or education for leisure or for that matter enhancing his knowledge for further promotion in his job.

But the situation is quite different at present, when we are entering the 21st century very shortly. Time never ran so fast as today. Competition in life was never so hard as we find at this juncture. Knowledge of man never became obsolete in such a short time as we find today. Ambitions are going higher and higher. Every country has realised the need of educating its population in the real sense of the term. Every man or woman wants to improve his/her life style and living standard. Continuing education is becoming a part of educational system. As such it was increasingly realised that formal system of education as has been prevailing till now was not sufficient enough to meet the demands of the coming century. Constraints in terms of man power and money to build educational institutions, appoint teachers, provide other infrastructure and the distance of student from the schools/colleges led to the search of a via media which could be alternatively, use to expand education and fulfil educational needs of all. Instead of bringing students to the schools/colleges it was proposed to take school to the student and hence this concept of distance education came into existense.

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Till almost the middle of the twentieth century the term distance education was unknown, although it had existed since the time, the postal service became popular. In fact with the beginning of the postal service, man or woman started sending messages or advise to his/her ward living far off. This was not doubt an education from distance. The letters written by Pt. Jawaharlal Nehru to his daughter Indira Priyadarshini (Smt. Indira Nehru Gandhi) from Naini Jail can be cited as the first known example of distance education in our country.

Distance education in its present form, has earlier beginning in the west. It has been defined as a method of teaching in which the teacher bears the responsibility of imparting knowledge and skill to student, who does not receive instructions orally, but who studies in a place and at a distance determined by his individual circumstances.[1] Most quoted definition of distance education is that of Professor Borje Holmberg. According to him distance education is 'the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organisation.'[2]

Distance education describes those forms of education in which teacher and learner carry out their essential tasks apart from one another, Keegan[3] has identified five characteristics of distance education.

(a) the involvement of an educational institutions or Organizations (which distinguishes distance education from private study);

(b) the use of media (most often print) to unite teacher and learner;

(c) the provision of a means of two way communication;

(d) learning on an individual rather than on a group basis;

(e) from perspective of the institution, the possibility of the economies of scale that go with an industrial form of production (e.g. printing, broadcasting).

In short, distance education is a system of education in which there is no face to face relationship between the teacher and taught but they are linked through correspondence, radio talk or voice and T.V. apprearance. Teacher motivation according to different needs of the learners may not be there, but learner motivation is there. In our present context distance education is in some ways better than formal direct teaching institutions where motivation factor is absent both in the teacher and learner in most of the cases.

There are no two opinions as to the suitability of distance education at the present juncture when the World population specially in third world countries is growing at a speed not known before. Some of its many advantages may be mentioned—

1. It is most flexible educational system which is not limited by time and place restrictions.
2. Distance education can be used at any level from primary to higher stage.
3. It can supplement the studies of regular students along with being a separate system of education.
4. Under this system learner can progress at his own speed.
5. It is an economical method of teaching as compared to regular formal system. Hosmer[4] compared the costs and results of correspondence study and resident training and

found that the cost of correspondence study is but a fraction of the cost of resident study although student achievement is the same for both techniques. Depending upon the kind of programme and number of students involved correspondence course is often more efficient and economical than any other technique. Teaching can be more efficient and powerful if other media like radio and TV support the system. It is economical in the sense also that a large and permanent faculty along with equally large infrastructure, at least in proportion to the learner is not needed to run the distance education system.

6. Learner can take advantage of the lectures of the most efficient teachers which is not always possible in all conventional institutions.
7. The best part of the system is that it can reach any remote area through postal service if not through T.V.
8. It leads to self-learning, which is education in the real sense and stable and also which is not really encouraged in most of the teaching institutions.
9. It fulfils the need of many learners who either fall out of the conventional stream for different reasons or who are employed and do not find time to go to them howsoever keen they may be.

As regards its relevance to our country along with above considerations, existing education imparting machinery is totally inadequate to the country's need and cannot hope to provide education within the four walls of class rooms to our growing millions in the near future. This inadequacy was realised in the early sixtees and the first correspondence course was started at Delhi University in 1962. The success of the system inspired other Universities also to initiate this programme, with the result that now we have may institutes of correspondence course affiliated to the universities. Radio broadcasting has also been used extensively in our country for formal as well as distance education.

The advent of television gave a new dimension to the programme of distance education. The year long Satellite Instructional

Television Experiment (SITE) inaugurated in August 1975 generated much hope of educational expansion. Entire programming was provided mainly by Doordarshan. Approximately 1320 hours of programmes were planned for one year experiment or almost four hours everyday. The SITE covered a rural population of about 35 lakh living in 2400 villages in six states of India viz. Andhra Pradesh, Karnataka, Madhya Pradesh, Orrisa, Bihar and Rajasthan... A Study on social impact of SITE on adults was conducted by a team of Social Scientists at the Space Application Centre, Ahmedabad. It concluded that audience favoured instructional programmes as compared to social cultural programmes. A large scale longitudinal survey has shown evidence of large gains in information, awareness and knowledge in many areas. It was found that the gains were greater for under privileged section of the rural society. A study conducted by NCERT regarding impact of SITE on primary school children reported that children of age group 8—11 exposed to SITE had better language development and sought information more frequently. The attendance at schools did not improve nor did the achievement of children in subjects taught in schools.

The launching of INSAT-1B has tremendous prospects in school as well as higher education. It covers nearly 70% of the population through a net work of about 180 stations. The software for programmes are partly selected from universities and partly from the foreign resources. They include lectures on life science, computers, communications and developmental perspectives and many other subjects. State Institutes of Eductional Technology have been set up in six states to produce educational television programmes. A Central Institute of Educational Technology has been set up for production of programmes and training of personnel.

The opening of Andhra Pradesh Open University, Hyderabad in 1983 was another land-mark in the field of distance education. It started with B.A., B.Com. courses and had about 30,000 students enroll in 1985. Indira Gandhi National Open University inaugurated on 19 November 1985 hopes to meet the requirements of a large number of people. Its educational system would be characterised by innovation and flexibility. The University will make use of the modern communication technology. In the next couple of years a few other states hope to start open universities.

However, looking to the needs of millions of our population which are in need of general as well as professional education, adult and continuing education, these efforts are meagre. Like other third world countries where the challenges to education are greatest and resources to meet them are scarcest, we should take distance education more seriously and expand it to the full.

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# 2

# The Concepts and Forms of Distance Education

MALCOLM S. ADISESHIAH*

## Terminology

To the terms formal, non-formal and informal education, the terms distance education and open education have been added. Formal education, it will be recalled, is learning within an organised institution, with time schedules established, curricula and syllabus taught by the teacher and learnt by the student, followed by a system of examinations. As such formal education, at first sight, cannot also be distance education, because the learning in the latter case is not taking place within the institution : but it could in the main part also include distance education, if the latter follows the curricula and syllabus of the formal institution. Non-formal education is learning that is organised outside the formal system, with emphasis on its organised character, its hours of learning being flexible. Here again non-formal education seems to exclude distance education because distance education does not take place within the non-formal schedule of learning :

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in some forms of non-formal education, such as training on the job, or learning liesure hours, however, distance education can be operative. Informal education is really incidental education through reading, attending lectures, participating in seminars etc., which can be either distance or non-distance education. Open education cuts across all these forms of education and can be expressed in formal, non-formal, informal and distance learning systems.

## Concept

In reflecting over the concept of distance education, it is necessary to distinguish between the two senses in which the term education is used. Education first refers to the learning process—that is the mental process of internalising an external event in order to understand it and control it. Second Education could also refer to the infrastructure which makes possible the learning process—school and college buildings, material and equipment, laboratories, playground etc. The teacher and the book and increasingly today the various forms of audio-visual aids occupy a middle position between the learning process and its infrastructure. The teacher, the book, the electronic aids are part of the learning process in the sense that they help in the internalising process : in fact the teacher is in many cases a part and hierarchically above the book and the audio-visual aid, because he has to interpret the content of the book and explain the message that the electronic instrument conveys. On the other hand the teacher is apart from the learner and has to be paid a salary and assured living conditions, the book has to be purchased, as is the audio-visual aid, and in that sense all three are part of the infrastructure.

Conceptually the learning process is the result of the interaction of the teacher and the taught. In this sense, education is a 1:1 relationship. Should this relationship be physically a near close one ? That was the ancient Indian tradition—the Guru-Shishya relationship. And that is also the basis on which all systems of education have been developed. The ideal of a literal 1:1 relationship, however, became impossible with both the democratisation of education, and the upsurge in people's desire to learn. And so norms for the teacher-pupil ratio have been developed to maintain this teacher-pupil link and interaction. The system of private tuition is really a throwback to this 1:1 relationship. And till recently the learning process has required that the teacher should be in physical and day-to-day contact with his students.

From that point of view, that is from the point of view that education is the resultant of the personal interaction between the teacher and the taught, conceptually distance education seems to be a contradiction in terms. In distance education, the teacher and taught are separated by distance, and there is no personal element in the teaching and the learning process. Thus in a geographically separated form, where teaching emanates in a kind of impersonal manner from a centre, and is spread out over varying distances, the educational process is not of the kind and variety that we are used to and have defined earlier. In fact a question can be asked as to whether distance education is education at all.

The concept of education as a learning instrumentality is, however, reinterpreted in distance education. In distance education, learning takes place, that is the external reality is internalised, not through the mediation of a teacher, but through the message and information that he puts out. Whereas informal education the learning process of a student is mediated by the physical presence of a teacher, in distance education the learning process is mediated by the books, materials and electronic messages that emanate from the teacher(s). In that sense distance education is conceptually a new form of education.

**Special Nature**

In distance education, there has to be real learning, not the rote repetition of what the teacher says, as in some parts of institutional education. For one thing there must be strong motivation in the case of distance education for a student to enter this area of learning, for not only is he deprived of the usual large infrastructure, the classroom, the library, the laboratories, the teachers and fellow students, available to the student of institutional education, he also has to set aside his free time after his working hours to become a student under the system of distance education. Comparative studies which have been made of learning acquired under the two systems, show a higher level of learning and individual acquisition of knowledge in the case of students under distance education compared to those under non distance education.

## Forms

Distance Education can take many forms.

The first and simplest is what is called correspondence education for undergraduate courses. Here the course of study prescribed by a University for an undergraduate course broken up into a number of modules, which are posted to student, who works on the material sent to him, and can obtain further guidance and clarification through writing back to the diffusing centre, and through attending the periodic contact classes which are organised at or near his place of residence along with other students participating in the correspondence course. Here some original work is called for in breaking up the course into graded, self-contained learning units which are intelligible and comprehensible to the student who has no other aid. There should be regular posting of the material to the learner and prompt replies to queries on the course posed by him. The problem with this form of distance education is that it is a unilinear, uniform course, which cannot follow the differing learning ability and path of the individual student, as the system of private tuition does. Also any irregularity in the despatch of lessons to the learner will lead to a deal of confusion and disruption. The advantage of this form of distance education is its unlimited outreach to learners wherever they may be resident. The only requirement is that there should be a postal service servicing him and preferably good public library. This form of distance education has become very popular in that a large number of universities have organised such courses. The popularity of the course is such that the universities which run them make large sums of money (around Rs. 3-4 crores a year) from it. While this form of education provides education to those living in distant places and who want to pursue learning and upgrade their knowledge and skills, the danger it faces is that it may commercialise the education system, and be regarded merely as a source of income to the university running the course.

A second form of distance education is one which uses not only the posted meterial, as in the above case, but also the elecronic media. The radio has been used in this country to supplement classroom teaching and not as a form of distance education. It is an instrument which can reach distant places, places which even the postal system cannot reach. So there is need for the radio to be used to broadcast the entire course in a given undergraduate programme as well as to supplement the written material sent to the student. Broadcasting of lessons calls for special skills on the part of the broadcasting teacher, of systematic analysis, clarity of speech and convincing presentation. It is more difficult and complex than the routine lecturing or the writing out the lessons in the course. India has not yet began to use this rich resource for distance education. Similarly the TV can be used to supplement the written lessons or can be used as a self-contained means of learning. This electronic media is particularly useful in providing science & technology lessons as well as lessons in technical education, the lessons revolving around the scientific equipment in the laboratory or the machinery in a workshop or industry. In the case of science learning, the distance education centre can design and make available science kits around which science lessons can be given. A start has been made in using TV in mathematics and science education in India. The advantage of this media is that the very best teachers in each field can be used in providing the TV or radio education. The one limitation of this medium of distance education is that there is no two way exchange possible and learning, as noted earlier, is the result of a dialogue. Even the best of monologues, such as a lecture or a sermon, has its learning limitation. In the use of radio and TV either as a supplement to postal teaching or as a comprehensive self contained form of distance education, there are rich possibilities which should be developed in the country.

The use of the fast growing communication technologies open up further larger vistas for distance education. The proliferation of computers and their development through their peripherals, the growing use of cable television, information technology, communication satellites and the development of micro computers which free the user from the need to be linked to a network or a main frame computer centre are a pointer to the endless learning techniques and methodologies that are at the disposal of distance education in the near future. Further, one teaching and learning tool of distance education, informatics, is of particular interest to us in India as it can be used in the management of our educational services which are facing a crisis of numbers and complexity. The problems faced in the use of these new forms of communication technology in distance education are : (a) the determination of priority areas for their application (as they cannot be applied over the whole field to start with), (b) development of teaching software, and (c) above all the training of teachers in their use and development. In fact if teachers learn how to use this technology and how to interpret the message they transmit, distance education too, like non distant education, can become a two way traffic.

A third form of distance education is one which breaks away from the established syllabus and content of the schools and universities, and innovates with new learning content. This new content may relate to the age and stage of learning. For instance research in one of the country's university adult education department has shown that an illiterate adult can reach the literacy level of a child at the end of the second standard of the primary school through 6 weeks of literacy learning, in 72 hours of study. Similarly the learning of a worker in a leather factory can combine academic study and professional training in a 3-year programme, during which he could be continuously assessed and given a certificate to proficiency, which may enable him to move up to a superintending post. Again science and technology learning is changing and developing very fast. This is particularly so in high technology areas. Renovating and modernising science & technology modules can be devised to provide scientists, technicians and engineers for updating of their skills and the specialising in the latest in their fields.

In fact with the traditional view now exploded that persons can only learn before becoming adults which was true in a world where knowledge was fixed or changed very slowly, with fast, rapid and accelerating change in knowledge and information, obsolescence is a greater present reality for every scientist and scholar than what his degree indicates. Studies show that four years after his MA, MSc, or PhD a scientist loses half his usefulness because of obsolescence. One answer to this fact of obsolescene is for the working scientist to return to the university as a full time student, or opting or being forced to early retirement. What has recently emerged as an answer to technological obsolescence is the programme of distance education, which is the means of continuing education and updating of knowledge. The world of today faces a rapidly changing environment, arising from shortages of energy and raw materials, sociological and technological breakthrough and changes, so that the very survival of the scientist and the worker depends on his adaptability to the changes and his being able to continue learning, which distance education makes possible. Studies show a correlation between those undergoing such distance education courses and their job satisfaction, or increase in salary or promotion. With the fast changing society for the worker, working scientist and the specialist, distance education is the means of keeping himself upto date and surviving.

It is in this area of the devising special updated curricula and modernising learning programmes to meet specific learning needs that distance education merges with open learning systems. Such open learning systems can and should operate at the equivalent of the secondary and higher secondary school, the polytechnic, the university, the engineering, agriculture and medical institutions and the centres of research. I said the open learning system must operate at these levels. That is necessary, but takes us back to the first form of distance education. In this third type, distance education will operate the open learning system at the equivalent of every level of learning and skill. This will call for persons who can devise such courses on the basis of what people joining the open learning system want. The system can and should use all media—the printed as well as electronic media. This is the next stage to which our distance education in the country should move.

## 3

# Importance of Distance Education in India

S. Irudaya Rajan*

With the ongoings of centuries of life and new era of civilisations people have seen and developed new horizons in their attempt to live and lead a comfortable life. The complexities and multiplications of human desires and less and less available resources due to the growing population and the futile attempt to grow in response to the requirements have given rise to our general growth of over all educational and institutional setups. We acquire knowledge and our inquisitive minds get filled with progress in learning the situation around us and the existing problems stand unsolved till we research to bring it down to be familiar and known.

But education, as a basic necessity for human being is not available in cheap or plenty. All those who need it may not be monetarily well off or availability of institutions may be hindrance. Talking about universities and graduate level education sufficient institutions are not available though students throw their applications for admissions. Supply does not keep pace with demand.

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For instance, the University of Indore where the university library facilities were kept open for all private students on the payment of a nominal fee had a large number attending the library and very often the reading rooms were so overcrowded that there was no sitting place. (Joshi, 1977).

## Figures at a Glance

Perhaps, no date in the history of Modern India is of greater importance in the emancipation and education of the Indians than the date of our freedom. India attained independence from the clutches of the British rule on 15th August 1947. Its constitution was amended on 26th January 1950, announcing India as a soverign, socialist, secular, democratic republic and promising all its citizens justice, liberty, equality and fraternity.

Article 45 of the Indian constitution says that "the state shall endeavour to provide within a period of 10 years from the commencement of this constitution free and compulsory education for all citizens until they complete the age of 14 years".

More than thirty five years of planned development had led us to a situation which cannot be categorised as satisfactory. We talk of free and compulsory education, but the reality reveals a shocking story. Let us study the data available in Table 1.

TABLE 1

**Percentage of Literates in India, 1951—81**

| *Census year* | *Percentage of literates to total population* | *Percentage of male literates to total male population* | *Percentage of female literates to total female population* |
|---|---|---|---|
| 1951 | 16.67 | 24.95 | 7.93 |
| 1961 | 24.02 | 34.44 | 12.95 |
| 1971 | 29.46 | 39.45 | 18.72 |
| 1981 | 36.23 | 46.89 | 24.82 |

*Source* : Census of India reports.

*Note* : Literates refers to those who can read and write with understanding. Children 0—4 are treated as illiterates.

At the time of 1951 census, i.e. immediates after independence, there were 83 illiterate Indians to every 100 Indians. It is acceptable and understandable that it is not an easy task to achieve for a nation which has emerged from the grip of foreign rule to eradicate illiteracy of the teeming millions within a short period of time. After 30 years of systematic and organised planning, we are able to bring 20 more Indians from the illiteracy. In other words, out of 665 millions population in India (excluding Assam), more than 211 millions are still illiterates. More shocking is that the situation is more deplorable in rural areas where seventy seven per cent of the population lives. Astonishingly, the data reveals more than 131 millions rural population registered themselves as illiterates. (who cannot read and write).

TABLE 2

**Literate Classified by Specified Ages and Sex and Place of Residence for 1981**

| *Age group* | | *Total* | *Rural* | *Urban* |
|---|---|---|---|---|
| 5+ | Persons | 41.44 | 34.04 | 64.89 |
| | Males | 53.48 | 46.74 | 74.00 |
| | Females | 28.47 | 20.69 | 54.41 |
| 10+ | Persons | 43.52 | 35.84 | 67.23 |
| | Males | 56.99 | 50.08 | 77.31 |
| | Females | 28.99 | 20.86 | 55.48 |
| 15+ | Persons | 40.76 | 32.70 | 65.13 |
| | Males | 54.84 | 47.27 | 76.36 |
| | Females | 25.68 | 17.57 | 51.86 |

When we analyse the data available in the Table 2, it creates lot of dissatisfactions and disappointments in the minds of the researchers and social scientists. The improvement in the education sphere is very meagre in India, because nobody basically understood the real meaning of education. More realistically, the data depicts the same sad picture.

The literacy rate calculated for the ages 15+ refers to the period which is fifteen years earlier than the present census i.e. 1966. It means at the time of 1966, more than 59 Indians were illiterate for every 100 Indians. After 5 years (1971), there was a slight improvement in the number of literates. (56 illiterates Indian to every 100 Indians). But the recent year (1976), the picture turned into a wrong side indicating a increase in the illiterate population.

An attempt has been made to study the present situation regarding the children and adults who are attending schools and colleges.

TABLE 3

**Per cent Distribution of Persons Attending Schools/ Colleges by Sex, India, 1981**

| *Age group* | *Total* | *Rural* | *Urban* |
|---|---|---|---|
| 5—9 | 38.45 | 32.95 | 58.69 |
| 10—14 | 50.45 | 44.27 | 71.58 |
| 15—19 | 26.37 | 20.50 | 42.90 |

One gets an vague idea from the table 3 that out of every 100 children in the age group 5—9, 62 were not attending school at all. In college, only 26 persons were attending some type of institutions for their higher learning. Of course, this is not a real picture, it is one side of the story. The basic fact remains that the students who were enrolled in the school is not continuing their education even upto 10th standard. There are lot of drop-outs and wastages in the intervening period due to poverty and other socio-economic and cultural factors. If this disappointment and dissatisfaction continues in the future, it is impossible to achieve "education for all" even by 2020 A.D.

For more detailed dicussion about the deteriorating situation of education in India, the following data are taken from the Ministry of Education and Culture, Government of India, New Delhi.

Among 100 boys enrolled at the first standard, only 26 continue his education upto eighth standard. There is nothing to say about the situation of females in this regard.

Here, it is relevant to note the expenditure on education in India. The annual non-plan expenditure on education from the central and state budget has increased more than 50 times over the

TABLE 4

Student's Flow in Classes (I—VIII) and Retention Rates

| *Class* | *Percentage of enrolment in different classes to total enrolment in class I* | |
|---|---|---|
| | *Boys* | *Girls* |
| I | 100.00 | 100.00 |
| II | 76.00 | 69.72 |
| III | 62.31 | 55.63 |
| IV | 50.52 | 44.26 |
| V | 42.84 | 34.74 |
| VI | 37.61 | 26.49 |
| VII | 36.32 | 22.55 |
| VIII | 26.85 | 18.04 |

past 35 years, from Rs. 114 crores in 1950-51 to more than Rs. 6000 crores in 1984-85. Although, the expenditure on education recorded over 50 times, it did not increase the enrolment rate even 5 times.

## More Shocking Study

There has been a three fold tremendous increase in educational institutions in India during the last 35 years, according to a study on education conducted by the Association of Indian Engineering Industry (AIEI). The number of educational institutions has increased from 2.3 lakhs in 1950-51 to 7.5 lakhs in 1984-85.

In 1950-51, while the primary institutions constituted 90.7 per cent, the ratio dropped into 72.9 per cent. The ratio for middle schools and higher secondary schools improved considerably from 5.9 per cent and 3.2 per cent to 18.5 per cent and 7.5 per cent.... The number of colleges increased from 723 in 1950-51 to 5135 in 1984-85.

However the AIEI study reported that the World Bank estimates revealed India would have the largest concentration of illiterate population in the world by the year 2000. India will have 54.8 per cent illiterate population in the age group 15–19. Even then, the level of illiteracy was as high as 65.9 compared to Indonesia (43.4 per cent) and the U.A.E. (46.5 per cent). The study informed that the total educational institutions increased from 23.9 millions in 1950-51 to 132.34 millions in 1984-85, a five fold increase.

In the U.S., the illiteracy rate was barely 0.5 per cent followed by Italy (6.1 per cent). The Republic of Korea (12.4 per cent), Yugoslavia (16.5 per cent), Philippines (17.4 per cent) and Thailand (21.4 per cent). The enrolment for university studies (higher education) has recorded from a mere 0.174 millions to 3.44 millions registering a growth rate of 9.3 per cent per annum (Times of India).

**Distance Education**

If this is the prevailing situation (9.3 per cent per annum), we need as alternative solution to the university educational system. Open University or for that matter even Correspondence course is nothing but "University without walls" Countries like France, West Germany, Japan, New Zeland and Australia have tried this experiment with limited success. "The problem of isolated and scattered communities which need education as an non-traditional type study as and when you like can best solved not by university institution but by new experiments in education" (Mansukhani 1972).

To solve this problem, distance education is considered as an alternative to the formal system and most of the countries are making use of this method of teaching at distance which denotes the application of multi media approach during the entire learning process.

The chapter on Open University and distant learning which was presented at the programme of action in the new education policy is limited to ten paragraphs. We understand, Indira Gandhi National Open University is supposed to the beacon of distance learning. It will also guide the states to seek to encourage distance learning in setting up similar universities.

As per the hand book issued by the Association of Indian Universities (1984), India has 29 universities which offer correspondence courses at certificate, diploma, graduate and post graduate levels. This includes information regarding the Andhra Pradesh Open University, which is the first Open University in the country. (AIU, 1984)

**Bombay University**

Bombay University, though it is years old, it established the Directorate of Correspondence Course only in 1971. But the annual report issued by the university of Bombay is not satisfactory, when we look into the examinations results of the various correspondence courses conducted in the University.

For instance, in April 1983, 864 students were registered in the correspondence course for first year B.Com., but only 782 appeared for the examinations. Among the 782 students, who were appeared only 78 students succeeded in the exams achieving 21 percentage pass in that year. This is a astonishing and unbelievable situation in the University like Bombay.

In this grave situation, recently, Dr. Valicha, Director of Distance Education said in an interview at Bombay "at least 1000 students have been coming daily to Clubhouse for admission to correspondence course. Last year at least 25,000 students have enrolled for admission to various courses. This year with the department being converted into Directorate of Distance Education signifying various courses and nationwide reach, the number of students are expected to treble this this year" (Geeta. S.)

He regretted that "we are terribly understaffed and have converted the whole office to an admission centre. Even then, it is difficult to cope up with the tremendous rush".

This may be true for other Directorates too. It is high time, Indira Gandhi National Open University through its newly formed Directorate of Distance Education should consider the quality of education along with the infrastuctural facilities available to educate the masses who are in thrist for getting knowledge.

If this is done in a efficient and organised manner, then Directorate of Distance Education of the Indira Gandhi National Open University can act as candle light distantly enlightening the minds of the ignorant people who are deprived of their education and at the same time accepting what the light shows from DISTANCE.

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## 4

# The Status of Distance Education

SARASWATHI BALASUBRAMANIAM*

The general public and the academic community look somewhat askance at the correspondence education offered at the university level. The reasons for this may be that the quality is not what it should be—that it does not measure to the standards of the parent university, even though the regular courses and correspondence courses emanate from the same source. The questions to be asked are whether the apprehensions expressed in this regard are well-founded; where do the weaknesses lie—are they at the stage of the formulation of the objectives; at the stage of delivery where the characteristic features can be seen and analysed; in the framing of curriculum; in the type of evaluation of courses or do they lie in the type of clientele to which they are offered. At the same time we find that the number of people offering themselves for correspondence education is going up. With the opening up of Open Universities the numbers will shoot up.

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[Based on author's Ph.D. dissertation accepted by Osmania University in February 1986]

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## The Questionnaire

As part of the investigative process relating to the above aspects, the author administered a questionnaire to (1) the personnel in the institutes of correspondence education of the universities as they are directly involved in the process; and (2) the personnel in the departments of education of the universities who are the ones to perceive the type of education made available and also as participants in the delivery of education.

For the preparation of the questionnaire certain assumptions which are the basis for the conduct of correspondence courses were taken into consideration. These assumptions are made on the basis of literature on open, distance and correspondence education.

Conceptually, the chief objectives of the questionnaire were to ascertain the concepts relating to the aims and objectives of these alternative courses, characteristic features of these courses as formulated in these universities and the target groups these courses were meant for. The responses from these experts would disclose whether the courses were free-paced, flexible and maintain quality. The important issue to be clarified was whether these courses were just to satisfy mass demands for degrees. The features of the courses discernible in the system gave priorities followed in the formulation of the courses. The information regarding clientele was to know whether these courses were meeting their objectives of getting at the proper and specific target groups.

## Sample

The sample chosen for the questionnaire was from the personnel in twenty one institutes of correspondence education as given in the UGC report of 1982 and the corresponding departments of education in these universities. The sample is stratified in that the questionnaire was sent to a pre-determined population engaged in the process of correspondence education and to a population (in the departments of education) who deal with theory and practice of education. The sample was chosen at random from that population.

The responses received were from universities of Osmania (18) followed by Kerala (12), Mysore (9), Madras (8), Andhra (7), Sri Venkateswara (7), RCE Mysore (5), Madurai Kamaraj (4), CIEFL

(4) and RCE Bhopal (3). The personnel from Central Institute of English and Foreign Languages (CIEFL), Hyderabad and Regional Colleges of Education were included as these institutes conduct prestigious correspondence courses.

## Analysis

The responses to the first part of the questionnaire dealt with : 1. The purpose of alternative courses; 2. The characteristic features discernible in the courses offered; 3. Types of clientele to indicate how the reality is represented and how far it adheres or deviates from the ideal conditions. There were individual items.

The responses for the second part dealt with : 1. Physical facilities and library facilities; 2. Organisational aspects; 3. Preparation of course materials; 4. Treatment of response/assignment sheets; and 5. The conduct of correspondence contact programmes. From these the author found out as to how exactly the courses are conducted—i.e. the practical aspects. There were 61 individual items.

There is always a risk when a respondent gives information about his institution as he may not disclose the entire truth for it will reflect the functioning of his institution.

For the analysis of responses percentages for each item were taken so as to evaluate the opinion of the experts regarding each item of the conduct of correspondence courses both in the theoretical and the practical aspects.

## Theoretical Aspects

The objective whether the course is an avenue of life-long education and is a means of making higher education freely accessible to all sections of society brought a positive response. Most of the responses indicated that these courses are not merely to satisfy the craze for degrees. The responses indicated that there is some scope for self-study and flexibility. But at the same time the responses indicated that the courses are not creating new skills nor are useful for cultural development or as reflection of social change.

The courses are similar to the regular courses, they have no pacing; the students have to adhere to a strict schedule. The courses are a means for much desired accreditation and that they are diluted versions of the courses offered to regular student is the opinion of majority of experts.

The responses further indicated that the courses are not innovative and are not tailored to the socio-economic needs of the people. The features which evoked an equal number of positive and negative responses are about the quality being maintained in the courses.

The responses clearly indicate that there is preponderance of arts and humanities courses and they cater to various segments of society. The courses are still conducted mainly in English—especially the postgraduate courses.

### Practical Aspects

The contact courses are still mainly conducted in cities and sometimes in district centres. The library facilities are still inadequate. There are no book banks and reference materials. There are no study centres and no laboratory facilities.

In the organisation of the courses the responses indicated that extensive written material is provided but this is supplemented very little by radio broadcasts and none by TV (except in one or two cases). There are not enough coordinators to look into the problems of individual studies. The lectures given in the contact programmes are a repetition of the instruction material provided. At the same time the responses indicated that students found it useful to attend to lectures to clear their doubts.

The preparation of the written material which is provided to the students and is the backbone of correspondence courses brought out mixed reactions. There are no permanent members to prepare the course material. The responses indicated that a course team is not always utilised as this item brought an outright negative reply. The names of the authors are seldom mentioned in the written material provided and most of the time the bibliography for the material is not included. The item concerning the periodic review of the scripts also brought a negative reply.

The personnel opined that enough number of assignments are not given and most often model answers are not included. The treatment of response sheets is found out as this is the only way by which a link between the pupil and the teacher is established.

The authorities are comparatively strict about receiving the response sheets but the sheets are not returned with corrections or comments. The response for feed-back is negative.

The final section of the questionnaire dealt with the contact programmes as this was occasion when students came into contact with teachers and also with like-minded people who were taking similar courses. Attendance is satisfactory and the students enjoy the courses but different types of activities are not held.

## Conclusions

The conclusions drawn from this study are that correspondence courses make higher education accessible to all sections of society. They provide scope for self-study which in turn gives self-fulfilment to the students.

The other conclusions that can be drawn are that these courses are not fulfilling the objectives of making people aware of social change and cultural development. It is clear that new skills are not taught. The courses are impersonal and not different from the mass media of the present day.

The correspondence courses are similar to regular courses, rather diluted versions of the regular courses, and stereotyped with no innovation, are brought out clearly in this study. Another interesting conclusion is that even though flexibility and diversity are part of the aims of correspondence education, these features do not find a place in the correspondence education which is conducted. The scope for practical experience is almost negligible. The courses are not in any way related to the socio-economic needs of the people.

There is a strong evidence that these courses are the means to provide much desired accreditation to a large number of people. But the non-commital reply regarding the quality and interest element in the courses is perhaps due to the fact that the subjects are not willing to give negative aspects of their institutions. The conclusion drawn from the divided opinion about craze for degree is that the subject feels uncomfortable to give a clear answer as he himself is a person with a number of degrees.

The evidence gathered shows that courses in arts and humanities which require no laboratory facilities predominate. The courses are conducted more in English and less in regional languages at the undergraduate level and almost in English at postgraduate level.

But surprisingly there is no urban bias and the courses cater to all segments of society including women.

The evidence shows that there are no adequate study-centres or book banks and in general physical facilities like libraries are lacking.

The students are given extensive written material but it is not supplemented by discussions on radio or TV. The experts are not sure whether the students are entirely satisfied with the material given. The lectures in the contact programmes are a repetition of written material but provides an opportunity for the students to clear their doubts. The lectures are however chosen with care and thought before the courses start.

There are permanent members of staff for preparation of material in some institutes. But the number is few and hence help is taken from outside and there are no meetings between various members who make a course team.

Authors' names and bibliography are not mentioned in the written material and suggestions are not invited from the students about the material—an important feature of teaching-learning process is sadly lacking. A mixed reply about the periodic review of scripts shows that it is done in a few institutions and is not frequent enough.

Sufficient number of assignments are given but there is no monitoring of corrections—rarely written comments are written when the assignment sheets are returned (CIEFL, Hyderabad does it).

There is no provision for different types of activities during contact programmes except listening to lectures. But still the students seem to enjoy the courses.

For the questions posed in the beginning of this article, the conclusions to be drawn from the above discussions are that some of the elements of correspondence courses are weak. The courses have to be strengthened by introducing new types with flexibility, diversity and innovation; above all, varied experiences have to be introduced. The courses should be tailored only to meet the needs of acquiring degrees. In this context the role of open universities might bring forth new vistas in providing higher education. Not only should the planning be done meticulously, but care has to be taken in executing innovative methods.

# 5

# Distance Education, Backward Classes and the New Social Order

HEM LATA TALESRA*

The concept of Distance Education is currently in fashion. It helps us like any other concept to understand and analyse the extent of knowledge within course obtained by various segments of society. It is also a methodology for imparting education. The concept is comprehensive in its nature. It has a popular and democratic appeal to the masses of people most of whom are unable to attend classes on the school and college campus. A large majority of our people—the Backward classes and the women, the physically disabled remain beyond the functioning of our educational institutions. It is for them that the concept of distance education provides new avenues for getting education.

It may be argued that the conceptual structure of Distance Education is nothing more than verbosity. It is the same old wine with new labels. The concepts of Correspondence Education, Mass Media in Teaching, Open University, Radio and Television lessons have all been included in the structure of Distance Education. The concept, therefore has been comprehensive—a wide spectrum. Correspondence education is not a new experiment in the third world countries. We are familiar with its limits and delimits. Despite the verbose nature of Distance Education let us examine some of its operational aspects to find out if it can be useful for our country in imparting education to the neglected sections of society.

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We want to be certain about one thing. We have enough empirical data to support the hypothesis that so far our inputs in industry have gone in favour of the better off segments of society. A larger share of our investment in education at all its levels has been cornered by the people above the poverty line. We do not want this to be repeated any more. Let us be clear that this new movement of Distance Education does not end up by distributing all educational benefits to the non-poor segments of society.

The objective of the present paper is to analyse the relevance of Distance Education for helping the backward classes of the country. Are the content and method of Distance Education compatible with the nature, temperament and problems of the backward classes ? This compatibility is the crux of the relevance of Distance Education. We make an attempt here to examine this relevance. We shall see how the backward classes looking to the new social order envisaged in our Constitution and government policies, namely, democratic-socialistic-secular, can meaningfully benefit through the programmes of Distance Education. If the contemplated benefits are larger, the concept has usefulness; if the benefits in the long or in the short run end up with the welfare of the non-poor, the concept is nothing short of a deceit, a farce.

## The Backward Classes

The backward classes who are supposed to be the target groups of Distance Education are a large and mixed category of "persons with boundaries that are both unclear and elastic. Together, they comprise one third of the total population of the country. They are made up of three principle components, the scheduled tribes, the scheduled castes and the other backward classes. The scheduled tribes and scheduled castes are well-defined categories comprising respectively about seven and a little more than fifteen per cent of the population. The other backward classes are a residual category; their position is highly ambiguous; and it is impossible to give an exact statement of their number." (Beteille : 9).

The scheduled tribes, characteristically are isolates. They have been living in forests and hills. Their habitation areas are found in pockets. The frontier tribes such as those residing in Mizoram, Nagaland, Arunachal and parts of Assam have problems which are largely political and diplomatic. Their problems have sensitised the whole country. The tribal groups living in the heartland of the country have problems of illiteracy, backwardness and poverty. Their exploitaion is colossal. Distance education for them should mean a redress from this historical backwardness and isolation. They need to be functionally educated. At the outest one must say that our efforts of Distance Education should lie within the structural arena of these groups. Broadly, will the isolates characterised by the mass illiteracy, ignorance, least resources of income, poor holdings, benefits from the national or regional availability of the programmes of Distance education ?

The scheduled castes are other constituent of the backward classes. The proportion of scheduled castes to total population in India, according to 1981 census, is 15.75 per cent. Among states and union territories, Punjab occupies the first place having 26.85 per cent of scheduled castes to total population in 1981 followed by Himachal Pradesh 24.62%. It must be observed in this connection that the scheduled tribes and scheduled castes are well-defined categories. The other backward classes are a residual category; their position is highly ambiguous; and it is impossible to give an exact statement of their number.

The backward classes have historically suffered for centuries from the operation and the high-handedness of the high caste Hindus. Their quality of life is very poor. Keeping in view their overall backwardness the Constitution has provided some securities and safeguards to these groups. It is believed that these constitutional privileges would enable them to come at par with the non-tribal groups of the country. The broad objective of the Indian society is to attain democracy, socialism and secularism. The Constitution under the Directive Principles of State Policy lays down that the State shall strive to promote the welfare of the people by securing a social order based on special and political justice (Article 38). The State shall endeavour to secure just and human condition of work, a living wage, a decent standard of living and social and cultural opportunities for all workers (Article 43). The State shall endeavour to raise the level of nutrition and standard of living and to improve public health (Article 47). The State shall direct its policy towards securing equitable distribution of material resources of the community and prevention of concentration of wealth and means of production (Article 39).

After having given a social profile of the backward classes and their place in the new social order we raise the basic question : What has Distance Education to offer to the backward classes keeping in view their attributes and traits which are historical to them ?

The introduction of Distance Education for the backward classes regions of our country presupposes the existence of some functional requisites, for instance, if education is given through mass media, it assumes that the consumers possess radios, televisions, newspapers and other techniques and tools which are used for imparting knowledge. Possession of all these articles cost the consumer. The cost varies at least from Rupees 300 to about 3000, if a transistor set or a television set is purchased. Owning equipment of Distance Education is not sufficient. It also requires a regular service of electric supply and the services of mechanics for repairs etc. There are a number of other pre-requisites which are of trifling nature but are essential for the continuance of Distance Education. For instance, postal services, travel expenses for occasional contacts are the other necessities for maintaining the programmes of Distance Education.

I would refer to the situation of the weaker classes of Southern Rajasthan with which I am well familiar. The scheduled tribes of the southern districts of Rajasthan constitute tribal sub-plan area (TSP). In the State the scheduled tribes constitute 12.21 per cent of the total population. In fact, it is difficult to electrify the tribal villages, for the habitation pattern of these villages is scattered. In such a situation electrification of these villages, if not impossible, is very costly and difficult. Television, it seems, would make the least entry in these villages. Owning a T.V. set involves an expenditure which is almost beyond the meagre budget of a poor tribal. He would better go in for owning a transistor set than the poor quality television set because then these sets would put the tribals at the mercy of the mechanics. Post offices, yet another centre of communication for Distance Education are few and far between in the tribal areas. Actually, we shall have to collect data to provide a statistical picture about the pre-requisites that are supposed to be found in the tribal areas before launching any programmes of Distance Education. It is easy to conceive of starting progammes of Distance Eduction but it requires a large scale exercise to find out whether the weaker classes of the society possess the infrastructure for consuming the Distance Education programme.

In the case of scheduled castes the situation is nonetheless better. The scheduled castes from 17.04% of the general population of the State of Rajasthan. They are not found in specific pockets like the tribal groups. Their spread is general. They are found almost in all the caste Hindu villages. They continue to practice "unclean" occupations such as carrying the dead animals, dealing in hides, sweeping the village streets, working in the dry latrines etc. Their habitation areas are mostly at the fringe of the caste Hindu village.

The status of scheduled castes continues to remain more or less the same as it was in the past. They remain a marginal group in the village. Even if there is electricity in the village the lines are not drawn to the extent of fringes, for the funds of the Gram Panchayats are very limited to meet this sort of "luxury". The village electricity thus remains restricted to the habitation areas of the high castes Hindus. A.T.V. set thus is denied to the scheduled castes members in the village. Ownership of transistor can be within the reach of the scheduled castes. But then it would remain limited to the elites only. The masses of untouchables are by and large beyond the reach of a transistor. Our impressionistic but surely logical analysis of the situation of the scheduled castes also suggests that it is difficult for them to own meaningfully the equipment required for the consumption of the programmes of Distance Education.

We are afraid the weaker classes today do not have the infrastructure required for availing themselves of the benefits of Distance Education. Distance Education, and it does not require any debate, presupposes the availability and ownership of these tools of mass media. Correspondence courses presuppose the existence of the three R's. And the members of weaker classes are beyond the purview of the three R's. It all suggests that before we launch the programmes of Distance Education for weaker classes, we had better first prepare the infrastructure. Without that if we hasten to go with the Distance Education programme it would not benefit those who need is the most. The benefits on the other hand would be reaped by the high caste Hindus, the upper classes who are mobilising the masses to immediately start these programmes. Our argument is that the demand for distance education programme is for the vested interests of the higher groups of the society at the cost of those who have been given promise by the Constitution to meet their educational needs on a priority basis.

# 6

# Student Support Services for Distance Education

SNEHA M. JOSHI*

Higher education provides people with an opportunity to reflect on the critical, social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialized knowledge and skills. It is, therefore, a crucial factor for survival. Being at the apex of the educational pyramid it has also a key role in producing competent personnel for the various important vocations. With this demand in focus higher education in India has grown speedily. There are around 160 universities and about 5,000 colleges in India today. There has been a mushroom growth of institutes of higher learning which charge higher fees, and even then there is tremendous rush. In spite of so much expansion of higher education many students are deprived of admission to the formal system of higher education. There could be several reasons like limited seats, geographical and social isolation of the students, students not able to fulfil the requirements for entry into the formal set up etc. Though, these students are deprived of joining the university system due to above reasons, there are several others who are turned down even though they fulfil the criteria for entrance. Thus, higher education in Indian conditions is facing major issues like, lacking in quality, increase in quantity and not able to maintain equality. In order to meet the demands in India a beginning was made by starting correspondence courses in the Universities. In March 1961, an expert committee recommended that correspondence courses leading to a degree or equivalent qualification should be administered by universities only. Main emphasis should be given on development of good quality correspondence material and also personal contact between teacher and taught. This is to be supplemented by good radio broadcast, audio and video materials. From these beginnings in correspondence education in India, we now find tremendous growth in this system of education. Many private institutions are also using correspondence education. This shows the popularity of this system, though it is criticised heavily. The main drawback of this system is weak student support services as a result of which the students are dissatisfied, frustrated and they drop out from the system. Distance eduction system also mainly makes use of correspondence education. This system is more popular in U.K. and South-Asian countries.

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The essential aspects of modern distance education are well thought out and well planned correspondence materials which are self-instructional, set books, charts, posters, reading materials, television and radio broadcasts, audio and video pre-recorded cassettes, which provide academic support to the learners. Also tutoring and counselling services play a vital role in the personality development of the learners. Keegan (1980) comprehensively analyses a range of attempts by a large number of eminent authorities to define distance education. According to Holmberg (1977) distance education is any one of the various forms of study which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms and it includes teaching through print and electronic devices.

As such distance education is capable of taking in a vast and varied clientele :

1. In-service persons who for economic or other reasons had to take up jobs at an early age but are on the look out for an opportunity to improve their educational qualifications.
2. Drop-outs who later become motivated to resume their education.
3. Persons in geographically remote rural areas where there are no institutions of higher education.
4. Socially and economically backward sections of society.
5. Overflow from colleges/university teaching departments where admissions are made on merit and for a fixed number of seat.
6. Retired personnel who want to take up studies to keep themselves occupied.
7. Persons who want to learn and earn simultaneously.
8. Persons who want to study a subject just for the love of it, or to satisfy their curiosity.
9. Handicapped persons.
10. Persons who need some additional training in their vocation for updating their knowledge.
11. Persons (in affluent societies) having plenty of leisure time who want to pursue some hobbies and other spare time activities.
12. Those students who are not able to fulfil the criteria for entry in the formal stream of higher education.

The added advantages of distance education system may be summarized as follows :

(a) It is very economical. After a critical stage more the students, the more economical it is.

(b) There is no fixed student teacher ratio.

(c) The achievement of limited number of excellent teachers can reach thousands of students.

(d) Very few full time academic staff are needed. Part-time teachers of the conventional institutions often fill the bill.

(e) There is no need of academic buildings, students' residence halls etc.

(f) Students are not concentrated in the campuses and there is little chance of student unrest.

(g) In-service personnel, housewives, disabled persons, underprivileged people residing in remote areas, school drop-outs etc., all can avail of the courses offered.

The inherent flexibility of distance education system in conducive to greater variety of subjects of study, introduction of interdisciplinary options in various courses and wider choice of subjects for the learner. The system is eminently suited for instruction at all levels of education. There is, however, a strange fallacy among some academicians in some countries that technical and science subjects cannot be serviced through distance education system. They are probably not aware of the tremendous success with which some correspondence polytechnics in Russia have been imparting instruction for full-fledged engineering and technological course as well as refresher and updating courses for topmost engineers and technologists throughout the country. We also know of some technical universities and institutes of Australia, teaching technical courses through the distance education methods. In fact the potential of distance education of serving technical and vocational courses needs to be fully exploited by the developing countries, so as to make distance education more broad based, meaningful and relevant to the needs of society.

Despite the above features of the distance education it is necessary to keep in mind the limitations of the distance education even at the conceptual level.

(a) The effectiveness of learning in the framework of the distance education system largely depends upon the capabilities of the learner himself. Paradoxically, even though the distance education system is characterised by a very high degree of flexibility with regard to the learning material, there seems to be utmost regidity in as much as the same learning material in a given subject is conveyed to all the learners irrespective of their personal circumstances. The merit of this uniformity is that all learners get the benefit of standardized material which probably has passed through a quality control test. However, in the field of education uniformity is not always a virtue. The content, the process of learning, and methods of conveyance of the content themselves have significant implications for the learner. In the formal university set up a university teacher is supposed to provide variety in teaching through providing various learning experiences.

(b) In the distance education the main apprehension is that the distance should not be created between the learner and the instruction. This may happen due to absence of the teacher in the distance education. Instruction is provided by instructional material and it is supported by audio/video tapes. But the teacher is absent; so whenever the student of distance education wants to have guidance, he has to wait till the mail comes or gets another lesson through the audio and video cassette. A true learner has his curiosity at its highest pitch. If this is not satisfied, he may feel frustrated and drop out. In the correspondence courses though personal contact programmes are organized, these are not sufficient, as these are only once in a year for 3/4 days. Therefore, in order to eliminate the drawback in the distance education system, it should have stronger, properly planned student support services. These form the backbone of the distance education system.

In China, Indonesia, Malaysia and Philippines, student support services are given more importance. According to them even audio tapes, video tapes, a good library, satellite tutorials form part of the support services. Distance education has certain inherent features which differentiates distance learning from that of formal university system. The major objective of higher education is to train the learnert to develop self-study habits and explore knowledge in his own discipline by his own efforts. Whatever the reasons, the formal instructional set up not able to cherish this objective though teachers are available on the campus. As against this, in the distance education system there are structured, well prepared instructional packages for the learners. The likely higher quality of the self-instructional package produced by multi-disciplinary team of experts for use in distance education therefore, seems likely to enhance the learning experience of distance education students. In effect, such instructional packages produce learning resources, which engender quality control of instruction relatively independent of particular lectures and/or tutors. These self-instructional packages are developed in such a manner that the learner can use at any time and at any place. These could be supported by printed study guides, audio cassettes, video cassettes, these too whenever and wherever convenient to him. Such learning resources are infinitely adaptable to the pace at which individual students learn, since the pace of learning is not determined by set lecture or tutorial periods in group settings. In addition to providing flexibility of self-pacing, such materials also engender self-reliance among students who can increasingly take responsibility for their own learning. If these potentially valuable outcomes are to be achieved, it is essential that the instructional packages endorse self-instructional principles, which are largely manifested in the provision of self-assessment questions. Herein students are given questions/exercises to complete and are subsequently provided with worked solutions, detailed answers, which allow them to judge the adequacy of their own efforts. Such self-assessment questions engender interaction/dialogue that is so often clearly structured, designed by audio and video cassettes using the principle of self-instruction, while such self-instructional techniques can include discussion and explanation of typical errors made by students, they cannot remove misconceptions that might limit the efficacy of learning among large number of students. For this reason it is desirable to provide some from of student support services whereby students can enter into meaningful dialogue with their instructors. Such support services usually depend on the availability of good telephone systems, mail services or local area resource centres with local tutorial support. These support services especially in U.K. are primarily used to cater to the individual needs of students and are often optional, given that many distance education students are in full-time employment and are therefore part time students for whom time is a precious resource. This indicates that clearly structured, will designed, self-instructional resources supported with face to face contact and counselling services with instructors would certainly optimize the results of distance education system.

To organize student support services for distance education system at higher education level, following structure is suggested. Distance education system should establish national level centres. These centres should develop the necessary self-instructional materials. These main centres should appoint region wise centres for catering to the needs of regional students. This will take care of admission, instructions and guidance and counselling and evaluation of these students. In certain remote areas also national level centres should be established taking into consideration a cluster of villages. These centres should be well equipped in terms of library facilities for books, journals, audio and video cassettes. Also specially trained tutors and counsellors should be appointed at these centres. These tutors should know the local language. Seconly, a face to face contact sessions should be held at these centres. These could be planned according to the nature of learners—either in vacations or during academic sessions. But these tutors and counsellers should be available. Thirdly, in order to provide good facilities, the students should be charged for these facilities by these national level centres and also some fixed remuneration per student should be paid to the tutors and counsellors, and all other administrative staff.

The student support services will concentrate on academic and personal problems of learners. The content, methodology and design of these services will be such that it will :

(i) solve the learning difficulties of the learners,
(ii) provide feedback to the learners regarding assignments, practicals, etc.,
(iii) establish cognitive support with the learners,
(iv) organize instruction which will correspond with student pacing,
(v) organise activities leading to enrichment of personality,
(vi) identify and foster desirable personality traits,
(vii) prepare and conduct tests and evaluate the same, and
(viii) organize remedial teaching.

There should be adequate provision in the courses to pay individual attention to the participants. The courses will include brainstorming, buzz sessions, discussions, group-work, demonstrations, practicals, and a few lectures and peer group discussions. Alongwith academic activities these centres will cater to the personal problems of the students. The group being heterogeneous, the problems of learning will be varied in nature. Especially, here the entry being open, many will not be exposed to the formal university system. In the present set up of 10+2, those students who could not pass+2 stage, will like to join distance education system. These learners will have special characteristics and their needs will be different. They may need counselling. Here, the national level centres will have to appoint qualified counsellors, who can understand the problems of these learners.

To sum up, it could be said that the best student support services are quality materials which are not totally dependent on other aids, institutions feedback etc. This will depend on the main centre producing master materials which will be sent to the regional centres for reproduction, distribution and support. As the learners of distance education would be heterogenous in nature, there is need for academic and personal contact. This is the best necessary support that the student support services should provide for the effective distance education programmes.

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# 7

# Work Ethics for Distance Education

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Every productive activity, whether subtle like education or simple like brick-laying, requires specific modes of behaviour and operation on the part of those involved in it. It is one's perception of an activity that determines the adoption of a particular process of operation to bring that activity to a desired end. This is discernible in our long association with the system of formal education which has witnessed vicissitudes from the sway of the rod to the rule of the chalk. The system has been viewed in a special way by all—the community, the teacher, the administrator, and so by the learner—and consequently corresponding attitudes have been formed and work ethics adopted.

## Nature of the Formal System

The formal system of education operates on certain premises. It assumes that the learner is not mature enough to decide for himself as to what to learn, when to learn, where to learn, how to learn, etc. The process of education is, therefore, limited to the act of direct teaching by an individual to a group through mainly vocal signals, and it is circumscribed by rules of superintendence, direction and control enforced by an out-side agency. The product of the system, therefore, needs to be labelled, like one in the assembly line of a factory, by an external examining agency that has nothing to do with the internal process going on in the formal classrooms.

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The formal education system being what it is, it imposes certain modes of behaviour and shapes of attitudes on the learners. The system, for example, is centred on the notion of delivery of knowledge, better call it information, that has to be taken in by the student and given out in a set form when asked to do so. It is the delivering agency that prescribes the quantum to be unloaded. Unfortunately it cannot determine the quantum of the intake by the very nature of the process which is other-directed. An attitude of unquestioning acceptance is formed thereby; It is characterised by intellectual passivity and moral unaccountability for what one does in the process. In extreme cases it generates a fatalistic outlook on life because the system leaves many things to the element of chance as we have been witnessing in the case of the public examinations.

## Philosophy of Distance Education

The philosophy of distance education is based on entirely different premises regarding the role of the learner vis-a-vis the process of learning, the materials for activating that process and the personnel involved in it. According to it the learner is not a mere subject of certain operations to whom things are made to happen, but he is a generator of forces and currents which he can command and shape as per his initiative and desire. He is a self-directed, active agent making choices, taking decisions, directing the process quantitatively, and qualitatively, and assuming responsibility for all this. He self-monitors, self-evaluates, self-feedsback and self-improves. In the process, he develops a progressively better competence for self-propulsion. Thus distance education, for whatever client group it might be intended, whether for the illiterate farmers, farm workers and rural women; or for factory workers and slum-dwellers, focuses on this unconventional perception of the potential of the learner to make wise choices and responsible decisions.

Everyone conversant with the Indian psyche, with the robust commonsense of the Indian masses, would agree to the truth underlying the basic assumptions of distance education. Everyone that has marked the crippling intellectual effects of the formal teaching by rote in our schools and colleges would appreciate the moral and intellectual value of distance education whose focus is the self-directed individual.

## Strategies of Distance Education

Distance education postulates a design for instruction that is comprehensive in coverage, permanent in nature, multi-level in offerings, multi-media in approach and need-based in focus. It can, thus, be easily distinguished from the delivery model of formal classroom teaching by a teacher on a day-to-day basis. It is a flux rather than an event like formal instruction.

The strategy of formal education is unquickening; whereas that of distance education emphasises the active role and responsibility of the learner in the entire enterprise. It seeks to quicken the very intellectual self of the learner. There are learning materials and resources of a large variety—print, audio, video etc., requiring him to interact with them. There are processes involving human agents requiring interaction and active involvement in intellectual and creative reinterpretations of reality and experiences. There are moments of moral and epistemological crises requiring a total mobilisation of the self to find new balances.

Distance education perceived thus is a self-renewing exercise for the learner taking place every moment he encounters his life, and its emerging needs with his inadequacies on the one hand and in-built strengths on the other.

## Work Ethics for Distance Education

If distance education is a challenging exercise for perennial self-renewal, the learner should be equipped with appropriate work ethics to operate effectively and satisfactorily. He will need materials that should provide him that training as he interacts with them. He will also need training, guidance and support through media, materials and human agents, all of which will be marshalled into a dynamic process of interaction to generate an appropriate mental and emotional climate conducive to self-learning.

Distance education will demand the following work ethics on the part of its students.

### (1) Goal-setting

The learner should himself set the goal of his learning. For this he may avail of the resource material of the system, the guidance services offered at study and contact centres and information disseminated by the media employed by the system. He must know what he wants to realise progressively in course of time by actively interacting with the programmes of distance education.

### (2) Choice of Materials and Methods

Distance education is supposed to be a multi-faceted enterprise involving choice on the part of the learner from out of several alternatives of materials and methods of work. Of course, he will have support services to guide him as to the relative benefits of the available alternatives, but there will be no imposition to accept them. Hence he will have to develop a sense of discriminating choice in keeping with his goals and intellectual equipment.

### (3) Self-direction

The distance learner has to undertake a self-directed project all through. He has to take decisions regarding how much to take in, at what speed to move, what and whom to interact with and when to do so, and so on. This requires intellectual alertness, clarity and courage—the qualities that are acquired through conscious nursing.

### (4) Self-monitoring and Feedback

Distance education has but remote controls which themselves are recommendatory rather than prescriptive. The system is so designed as to generate in the learner inner monitoring, evaluating and controlling forces. These require an attitude of accountability and seriousness of purpose on the part of the learner.

### (5) Interactive Dynamism

Distance education rests on a network of material resources, human support agencies, and media participation. It has an intricate interacting mechanism leading to incremental learning on the part of the participating learner who must be willing and active, in fact aggressive, to interact with various forces and generate knowledge for himself. There is none to deliver him the goods of information and knowledge at his doorstep in this dispensation. He has to be the prime mover with the system to support him in his endeavour.

## Implications

The peculiar work ethics of distance education are likely to administer a powerful shock to the traditional set of behaviour formed by the learner under the formal system of education over the years. The attitudes of intellectual dependence, fatalistic resignation, non-challenging acceptance and passive conformity that have been developed by the average Indian individual because of a peculiar socio-cultural environment on the one hand and because of the patriarchal system of formal education on the other, are likely to be a hindrance to the development of a different set of attitudes and work ethics required by distance education. It is obvious that adequate steps will have to be taken to build up a climate for this purpose on the following lines :

### (a) Clarifying the Concept of Distance Education

Mass media, print-materials and institutional infrastructures like schools, colleges, social clubs, organisations of youth, women, and professionals will join in making the idea, the nature and the value of distance education clear in the community. It should be brought home to all that distance education is not a pale replica of formal education, that it is not an alternative devised out of helplessness to tackle the problem of explosion of numbers flooding the formal system, that it is not some make-do second-rate arrangement for people who cannot join the formal system for want of funds on their part or want of space on the part of formal institutions but that it is an equally sound, valuable and valid system of education, perhaps with greater regard for the learner who is offered to self-manage his educational pursuit.

### (b) Selling the Idea

It is not enough just to put the idea of distance education across the community; it must be sold to them. It must be vigorously advocated by different agencies with evidences of its worth-whileness found all over the world. Its academic benefits, its cost-effectiveness in terms of financial resources, time and energy resources and economic gains that accrue as a result and its intellectual and moral gains should be explained to the target groups. Here the human support agencies would be immensely helpful through guidance-oriented discussions. Success models available in the community should be used to supplement guidance and counselling.

There is an indirect way of selling the idea, too. It is done by the government that lays down the policy of education in a state or in the country. Acceptance in the policy statement of the place of distance education in the whole scheme of national education, say by legitimising the open school and the open university system, gives push to the sale of the idea. In the same way requirement by employers of their employees' continuing education for better job prospects also boosts the sale of distance education.

### (c) Built-in-Training Packages

As seen earlier, work ethics and appropriate habits and styles of work get formed over a period of time through constant, conscious effort both on the part of the learner and the delivery agency. The learning resources in any form should have a built-in component of training for work ethics. Illustrated material, in print, audio and video forms, should be provided along with learning resources. Similarly interface programmes should be recurrently organised to reinforce learning of work ethics through resources. The agents of interface should be trained in delivering training modules to the learners. They should be well-versed in the art of demonstrations.

### (d) Contact Mechanism

Distance education inevitably provides for a contact mechanism to reduce anonimity and impersonality involved in the very nature of the system. Correspondence, telephone, personal meetings, review classes etc., are the chief means of doing so. This mechanism should be utilised for developing sound work ethics and effective habits of work. Guidance on specific issues can concretise a particular line of thinking in the matter. There should be a track-record of a distance learner to be maintained by himself as well as the contact centre and to be shared with the distance educator in order to help the former to be an effective and successful learner.

### (e) Research

There is no single mode of working in any field of productive activity, not the least in respect of human behaviour. With a vast range of heterogeneous learner population in the scheme of distance education, influenced by sociological, psychological and cultural forces of an infinite variety, we should undertake research in the dynamics of behaviour and work. We should continue to try out various processes and modes and guide the clientele in making their choices and in observing their performance and modifying it by themselves. Distance education then will not remain an isolated endeavour but will grow into a well-shaped discipline with a built-in provision for progressive refinement.

## Conclusion

Thus distance education in a country like India, with its peculiar culture heritage, and the legacy of formal education of the past two hundred years, is likely to open challenging avenues of work and experimentation for all. A systematic endeavour to develop new work ethics on the part of the distance learners through a comprehensive, concerted effort by the distance educators will signal a happy augury for the era of distance education in the years to come.

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# 8

# Distance Education Systems

D.K. SHARMA*

Concept of distance education has gained currency recently on the basis of certain important factors like mass education, postal-coaching, finances of education and the educational opportunity aspect for the citizen. Existing postal coaching, correspondence courses and radio lessons could be considered part of distance education (formal or non-formal). The term "distance education" is used interchangeably with the terms "open learning", and "extended degree program", because all these terms represent greater opportunities for learning through flexible adjustments in the time schedule and physical location of classes. Here time and location aspects have been emphasized in relation to the open learning activity. While Gupta (1982) took the correspondence education system in India as Distance Education and covered 'Correspondence Courses', 'Postal Courses', 'Open Learning Trends', and 'Life long Education' under a system which could act as supplementary and complementary channel to the traditional system of imparting education. Life Long Education is a wider concept which may be in the form of distance education or human interaction with his surrounding environment. The U.K. experiment of Open University based on their national need has been quite successful to impart educational opportunity to their citizens on the principle of distance education.

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At present postal coaching systems are predominantly working in the name of correspondence directorates in different universities. But distance education systems of tomorrow are expected to use multi-dimensional methods to cater to their student population. Multi-dimensional methods may cover hardwares—Computers, Films, Television, Radio, V.C.R., Tape-Recorders, Teaching machines—self instructional texts and manuals, seminars, group discussions, case study methods, assignments, tutorials, directed discovery strategies, laboratory experiences, Library guidance services. Student population should be provided opportunity to select their strategy for various types of courses according to their needs and capacities.

## Distance Education Systems and Computers

Development of computers is an important contribution of the bionics science where methods of creating mechanical systems are investigated and computers are going to be common market products in our technologically advanced society. With the changing socio-economic structure and increasing consciousness for quality of education, there comes an era of automation and computers in education (Sharma and Garg, 1979). It has been observed that Computer Assisted Instruction (CAI) permits many pupils to interact on an individual basis with teaching material stored in the computer. It is possible that students may have teaching and advice and designed schedule while solving problems or working through practical task. Even it is possible to design strategy based on inquiry guided discovery or laboratory mode. Various peripheral devices like slides, film projectors, tape recorders can be easily controlled by computer. There are some important systematic studies which have been conducted in some of the developed and developing countries to use computer for educational purposes. Gilligan (1973) used computer to teach 33 pupils of the first year biology class successfully, whereas an experimental investigation was conducted by Wood, Hartley, Lovell and others (1973) to use computer for special functions. Sharma and Garg (1979) designed the two strategies of computer assisted instruction and studied their relative effectiveness. It was concluded that there was no significant difference in achievements of students taught by strategy-I (using tele-writer) and strategy-II (using key-punch machines). Computer aided learning can handle many students individually and allow them to proceed at their own pace and level of achievement. Computer assisted instruction can be used in the distance education system where provision of learning centre or resource centre exists. Computer controlled telecommunication and television project can be used for the computer assisted instruction on various topics selected on the basis of interest and importance. Even popular learning packages could be prepared for the learner which could be used for education purposes on computer terminal of computer centre. Production of mini-computers and micro-processors on a large scale may be helpful for computer assisted instruction imparted for the sake of distance education. It is possible for computer manufacturing firms to design special computers for distance education systems with suitable cost which could be afforded by the community residing in rural and remote regions. In future it would be possible to have a common computer terminal for the number of Resource centres working under the distance education systems. Even faculty members working in the management (Trivedi 1983) pointed out that computers' application in management and administration got momentum with fastest speed due to advancement in computer hardware and software technology.

Distance education systems can use computer centre for professional development, educational administration functions involving data analysis relating to admissions, examinations, facilities, inventory (Shankar Narayan, 1979-1982). Computerised management system could be developed for the effective planning and management of Distance Education Systems. Management information system thus developed should be useful for group members as well as group leaders which would be helping them to take appropriate decisions for the various problems they come across in context of policy framing situations and routine matters. Proper communication channels should be developed to provide up-to-date and exact information to the group members (policy makers, top managers, middle managers, etc.). This requires flow of information about resources (time, finances, manpower), rules, regulations, job performance and various types of records (Darji and Sharma, 1983). Computerised management system will be a great asset for distance education systems to be used effectively to maintain managerial harmony.

## Satellite Communication and Distance Education Systems

Distance Education systems can work efficiently with the help of the satellite communication. This was suggested by late Dr. Vikram Sarabhai who realized the importance of satellite television as a means of communication and education relevant of India's developmental needs. It is a well known fact that hundreds of crores of rupees are needed for space programme. It is possible to justify the accountability aspect of this considerable amount if we consider educational, public awareness and social consciousness programmes by this noble means for social and economic development of our country, keeping in view its size, population and area.

The Satellite Instructional Television Experiment (SITE) was launched during August 1975-July 1976 using the American satellite ATS-6. The success of the SITE project inspired the space scientists to build INSAT-TV broadcast system. For the same purpose INSAT-IA (launched from USA on 10th April 1982 by NASA) and INSAT-1B (launched from USA on 30th August 1983) were launched in the orbit. On the basis of the various tests INSAT-1B could be called operational on 15th October, 1983. Now the space communication has become a billion dollar (Per year) industry and still growing. The direct broadcast satellites have proved to be cheaper than the present conventional system for communication (Ramnath, 1983).

Distance education systems can make use of the television for providing education to the masses. This requires careful planning and management. It is better to have preliminary survey of the needs of the society on the basis of region and their socio-economic balance. Social set up of the people living on high altitudes is quite different from the people living in plains or coastal belts of the country. Of course certain programmes may be useful to whole of the society. Teams of planners for these types of programmes will consist of educationists, psychologists, sociologists and communication experts who have wider outlook about the regions of this country and their problems. Interested educational and research organisations could be invited for this noble task. Unplanned and ill-organised programmes selected randomly may damage the whole cause. Unfortunately the present T.V. programmes regarding information and education are not attracting the masses and day by day motion pictures made for commercial purposes are becoming sole basis to justify Doordarshan. The whole T.V. system should be reorganised so that distance education systems can work efficiently. Space Application Centre (SAC), Ahmedabad is one of the important agencies working under the setup of Indian Space Research Organisation (ISRO) for telecommunication and T.V. broadcasting. SAC should take pioneering steps for distance education activities in collaboration with various universities and good institutions. It should work for effective planning and implementation of distance education programmes. It can also be a coordinating machinery for different agencies working in this direction. Important organizations working for the cause of expansion of education and having much workload in their respective fields are expected to coordinate and provide cooperation for developing distance education systems. It is better to start a National Institute of Research and Training for Distance Education. This institute will be doing research work for distance education along with training the human resources for distance education systems, UGC, SAC Ahmedabad, Department of Science and Technology (DST) and the Association of Indian Universities (AIU) can provide assistance to this national body in various ways. It will provide guidance to various distance education systems of tomorrow. This institute may have following departments and centres :

1. Human Resource Development for distance education systems,
2. Mass-Media Research Department,
3. Library and Documentation Development Centre,
4. Centre for Development of Self Instructional Text Materials,
5. Computer Application Centre for Distance Education Systems,
6. Research and Survey Department for Distance Education Systems,
7. Consultancy Centre, and
8. Evaluation Unit.

Distance education systems of the future are expected to cater to the needs and aspirations of various categories of learners with varying attitudes, aptitudes and interests on a reasonable cost with appropriate time adjustment strategies. They should be in a position to produce quality and excellence in our human resource development programmes. Careful planning and effective management strategies are required to design workable distance education systems for the future.

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# 9

# Genesis and the Growth of Distance Education

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The Open Education unlike the closed or conventional education in its backdrop and historical perspective has a unique grounding in the modern world of Science and Technology all over the world as a result of the advent of Technological Revolution.

The first Open University was started in Britain in 1969. Robbins' Report to the Government of U.K. (1963) admitted it clearly that universities must expand to meet the growing demands from qualified school-leavers and this expansion was under-way. Extension of opportunity to all classes of the population is an emergent need so as to replace the "elite" system of education that has been prevalent in Britain from many years.

The Report of the 'Open University' (1969) submitted to the Secretary of State for Education and Science of U.K. emphasises higher education as a basic individual right and say : "It is...unjust to the individual and unwise for the society thus to deny the greatest educational opportunity to the greatest numbers of citizens. For long regarded as the privilege of the few, the opportunity to engage in higher education is at last becoming widely accepted as a basic individual right..." Moreover, education generally and higher education in particular is, at one and the same time, a necessary condition of a modern technological society and defence against its abuse. In order to fulfil this right, the Open University was started in U.K. The student community joined the courses because they were more excited by the prospects of breaking away from tradition and of learning in a new way. It is more relevant to the twentieth century is obvious. No formal academic qualification is required for registration as students in an open university. However, this open entry is restricted to people over the age of 21 i.e. providing education for all adults who could not prosecute their studies and who could reasonably be expected to acquire new skills and qualifications by working part-time at home. The creation of Open University in 1969 in U.K. using correspondence, Radio and T.V. was a major break-through in the field of education. It was the first time to unite them in a major national-distance-learning system combined in an autonomous university structure. The distance learning systems serve a relatively dispersed student population and involve a minimal reliance on formal face-to-face teaching.

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Of the four Open Universities in Western Europe, the British Open University, Fern University in West Germany, the Spanish universidad National de Education a Distancia and the Netherland's Open University, the Netherland's Open University offers the best promise in terms of our definition of Openness. The other three are already established and producing a considerable number of graduates in recent times. The Netherland's Open University which was scheduled to open its doors last september, is striving to be truly open. As planned, every applicant over the age of eighteen is admitted irrespective of educational qualification and attainments. There is no predetermined programmes of study, the student being the one to determine the combination of courses which he sees as the most suited to the degree or diploma he seeks.

In Western Canada it is interesting to see the uses of Technology as a means of achieving open education. An interesting experiment, currently more in continuing and non-formal education area, is that being conducted by a Victoria B.C. Organisation known as "Knowledge Network of the West." This organization is using Satellite Technology to beam T.V. programmes for up to eighteen hours a day to all parts of the sparsely populated province of British Columbia. Television programmes, not developed by the Network but bought or borrowed from other sources, provide for both the educational and entertainment needs of all age groups and all levels of intellectual and educational development. The next step, now being planned, is for the Universities of Victoria and Vancouver to get together to map out their resources and to pool these as a means of providing university level T.V. programmes for the Province. A combination of private enterprise and the Government of Alberta in Canada has recently launched "Access Educational Services" utilising satellite technology—twelve hours a day, seven days a week, T.V. services—along with 18 hours a day of radio services. These two Canadian projects are significant in two important ways. In the first place with their programming providing daily services for every one from pre-school, through formal schooling and higher education to non-formal and continuing or in the words of Chairman of the Open University Committee 1984 of Maharashtra "life long education", as well as entertainment programmes, they are developing a new kind of openness in that they blur or play down the distinctions between one sector of education and another. They also break down the barriers between what is education and what is information service or entertainment. The Albertan interest in interactive learning by means of computer, represents another advance in that other area of interest to us, what has been the term "Information Revolution". The Plato Computer Interactive System is readily available to Australian students and is also probably available to many in other countries. This is essentially a huge computerized programmed learning system. Operated from Eastern United States and accessible by means of satellite and landline services. It has many elements of openness about it, since, it offers a considerable range of programmes into which a learner can tap at any level he desires and, as the interaction is between the computer and learner, the process of using the services is very much under the control of the learner. Cost, of course, is a major factor and this is true of all data banks and information systems. Their preparation must be labour-intensive and the labour involved must be highly qualified and well-remunerated. Columbia and other countries have been concerned about mass education and have been using satellite technology to provide extensive services to schools.

Sri Lanka, by its Act 16 of 1978, established its first Open University in Colombo which opened its doors in 1979. Though modelled on the British Open University, it has developed in new and important directions, the most important of which is its excursion into retraining education and distance education. In addition to offering traditional degree programmes by means of distance education and through regional centres, a large measure of control of distance education in that country has been handed over by the Ministry of Education to the Open University. Many countries, probably most, have given consideration to the idea, if only as a relatively inexpensive solution to the political problem of meeting increasing demands from younger people for higher education in the universities. This is very true of developing countries.

In China in the spring of 1978, the State Council approved a plan to set up a national radio and television university, and the Central Radio and Television University (CRTVU) was formally established in February, 1979 after several months of preparation. Since then, there have been four intakes of over one million students enrolled as registered students. The National Radio and Television Network of higher education has formed a complete system throughout the country. It consists of the Television University organizational structure at four different levels: the Central Radio and Television University, Radio and Television Universities in the provinces, Municipalities and autonomous regions, over 540 branch schools; and "grass roots" classes run by factories, mines, shops, etc. at the lowest level work in various enterprises, institutions and Organizations throughout China. China's T.V. universities are run at four levels corresponding to the organization of China's system of national and regional governments. The CRTVU at the highest level guides national work; the provincial, municipal and autonomous regional TVUs at the second level guide provincial work; The CRTVU is an institution of higher education under the joint leadership of the Ministry of Education and the Ministry of Broadcasting; T.V. universities in provinces, municipalities and autonomous regions are under the auspices of local government; their branch schools under prefectures and cities. Fund for T.V. universities at various levels are allocated from governments at corresponding levels. The CRTVU guides the educational work of provincial T.V. Universities, which in turn guide their branch schools. Since the establishment of the China Radio and T.V. Universities in 1979, it has rapidly grown into a mighty institution by establishing centres in 28 provinces, municipalities and autonomous regions in the country. Branch Schools have been set up in 540 cities and areas. About 1168 factories have set up work units. The teaching classes amount to 16,000.

Through the Correspondence Institute (TCI) was established in 1926 in New Zealand, earlier the growth was very slow and only during the last decade, it has made phenomenal progress. There are now 940 subjects available. In June, 1982, 29,837 students had enrolled with 500 staff. The reasons for the same are manifold. Successive governments have taken the view that no matter where a student lives he/she is entitled to equal opportunities for education at all levels. This includes people whose jobs or personal circumstances do not allow them to attend face to face lectures or classes. Money has always been made available to ensure that first-class distance education courses are well-written, educationally sound and attractively presented. By sympathetic tuition from teachers or tutors, a one-to-one situation is created on a personal basis. Pass rates in externally set and marked examinations are as high as, or better than the national average. The correspondence school does not charge fees. Massey University and TCI fees, are by any standard in the world, minimal. The correspondence school produces excellent radio programmes for its students. Massey uses seminars and area groups very effectively. The correspondence school uses area peripathetic teachers to visit and coach its students New Zealand distance education establishments have not rushed in to use the latest technology without having it, in all its forms, evaluated.

It is since fourteen years a public educational institution through correspondence and broadcasting began to operate in Korea. On 15th November, 1968, a memorable date in the annals of education of Korea, the Government put into effect the amended Education Law. A college of correspondence was established within a national university. In accordance with that provision, Korea Junior College of Air and Correspondence (KCC) was started within the Seoul National University on 9th March, 1972. On 10th March, 1973, the Educational Law was again amended to make room for high school courses through correspondence and broadcasting. On 23rd March of the same year, correspondence high schools were started at eleven high schools for boys and girls in Seoul and Pusan. Prior to the operation of those air and correspondence-college and high schools, special purpose course through correspondence and broadcasting were not entirely unknown in Korea. Over a century before the Tutorial Lecture classes Programme at Cambridge, England (1773) which is said to be the first attempt at education by correspondence, or the correspondence programme of Chicago University 1892, the nation's pragmatist scholar Sungho (1681-1763) is said to have initiated a correspondence course for the benefit of commoners. During the Japanese occupation and subsequent to it, many self learning Koreans benefited from subscribing to the so-called Correspondence lecture series of secondary and college levels. The KCC offering 2-year junior college courses came into being in March, 1972. The idea of correspondence college turned up as a by-product of the university preliminary examination that was conducted nationally from 1968. The start of KCC and air and correspondence high schools in Korea marked the beginning of a new era in education through correspondence. Correspondence education has been regarded for a long time as at best an irregular and remedial social educational system. Korea, however, has come to have a new, regular institution for distance education. Unlike the British and Japanese models the KCC emerged as a reality rather abruptly, without a lengthy period of public discussions or experiments with trial programmes, so that general public failed to perceive the significance of the birth of the KCC. However, it was recognised by a small segment of the educated population as a revolutionary event. Now, fourteen and twelve years old respectively, the KCU and correspondence high schools up and down the country have to enjoy both the attention and recognition of the general public. As of March, 1984, KCU has now 12 departments offering five year university courses and one junior college course, the student population amounting to 1,40,000. The number of air and correspondence high schools has increased over the years to 48, located at 24 large and medium cities throughout the country, catering to 35,000 students.

Thailand is a developing country with a population of over 50 million. In the mid-twentieth century the number of students who were unable to pass the entrance to the national universities was increasing, due to the limitation of seats. To help the government solve the problem, in 1969 a group of representatives led by the late Mr. Pramual Kullamart proposed an act to establish a new university, Ramkhamhaeng. The said act was granted by his Majesty the King and was published in the Royal Gazette, on March 2, 1971. Consequently Ramkhamhaeng University was established and began to work in the academic year of 1971. The students enrolment during the year 1983 rose to 84,879. After a decade Ramkhamhaeng developed from an open admission university to an open university and handles both on-campus and off-campus students.

The gradual development and growth of Open Universities all over the world had its echo and impact in India also in the field of Open Education. In July, 1962, in pursuance of the recommendations of an expert Committee under the Chairmanship of Professor D.S. Kothari, Chairman, University Grants Commission, University of Delhi made an important landmark in the history of education in India by starting correspondence courses under a body called Directorate of Correspondence Courses and Continuing Education. The syllabus, examination as also the university degree for the correspondence courses students are exactly the same as for their counterpart in the regular colleges of Delhi University. The minimum eligibility condition for entrance is that one must have passed the ten plus two examination of Delhi Board or an equivalent examination. The correspondence material is supplemented by radio broadcasts and telecasts by 'Delhi Doordarshan' organised by a special cell within it known as 'University of Air.' Even at the end of the first year it was observed that the examination performance of the correspondence course students compared favourably with that of the regular colleges. In his convocation address delivered at Agra and Mysore universities, the then education minister Professor Nurul Hasan, called for a massive programme of general education, an Open National University that would take the entire nation in its ambit. Prof. Hasan advocated the idea of open university and believed the poorest and the most neglected sections of the community must have access to education. An Open University having jurisdiction over the entire country would enable the students in the remotest corners of the country to have access to its infrastructure and without affecting their capacity to earn and help their families. Dr. V.K.RV. Rao, when he was the Union Education Minister, also advocated the idea of having an Open University in the country for dealing with the problems of higher education. Lord R.A. Butler delivering the Maulana Azad Memorial lecture in 1970, recommended that India should go in for an Open University. The Govt. of India had appointed the G. Parthasarathy Committee to look into the feasibility of starting an Open University, and the committee in its report submitted in 1976 strongly recommended the stating of a National Open University. The University Enquiry Commission appointed by the Government of Bihar suggested to the State Government to promote education in the non-formal sector.

The successful experience of Delhi University in conducting this pilot project bearing excellent results set in motion the other universities thinking in the direction of introducing correspondence courses in their respective universities at different levels. The Punjabi University in Patiala was the second university in India to offer these courses. Then came the Rajasthan, Meerut, Mysore, Madurai, Himachal, Panjab, Bombay, Venkateswara, Andhra and Madras Universities, and today the correspondence education is taken up by as many as twenty two Indian universities in various disciplines—Undergraduate, Postgraduate, Law, in-service teachers training and some vocational courses.

India in the recent past has taken a great leap in the field of Distance Education by establishing the first even Open University in August, 1982, in Andhra Pradesh, Hyderabad. It has been modelled on the lines of the Open University of Great Britain (U.K.). The planners of this university wish to give impetus to continuing education and are formulating a science education programme so as to keep the working men and women abreast with the modern scientific advancements in the world. Some higher technological courses and some foundation courses in Humanities, Social Sciences, Economics, etc. are being designed.

In August, 1983, New Delhi also launched an 'Open School' scheme to answer the long-felt need of non-formal secondary education in India.

The establishment of Open University in Hyderabad has ushered in a new era in the history of education in India. The walls of the formal system of education have been broken and India would soon be on the world map of literacy. The State Government of Maharashtra appointed a State Level Committee in 1984 to enquire into the feasibility of starting an Open University for the State. The Report of this committee was submitted to the government on 9th January, 1985 which has been accepted by the government. The Kerala Government have also announced its proposal for an Open University in that State. The Madhya Pradesh Government have also come out with a statement recently to establish an Open University in that state. At the National Level, the idea of setting up a National Open University was revived in 1984. The Prime Minister, Rajiv Gandhi, in his first broadcast to the nation in January, 1985 gave expression to this in the form of a Policy Statement when he announced the establishment of a National Open University as a part of new educational policy. In pursuance of this, a committee was constituted by the Ministry of Education with enlightened educationalists. The committee apart from preparing a Draft Bill, submitted a project report, detailing the various aspects relating to the establishment of National Open University. The government, committed as it is to strengthen distance education in the country, introduced a Bill in Parliament immediately. The Indira Gandhi National Open University Bill was passed by both the Houses in August, 1985. Thus, the idea of a National Open University initiated in 1970 became a reality in 1985.

Thus the philosophy and idealism of the open education system is no longer held as being impractical or unrealistic in our academic circles. Rather it would be more appropriate to say, that this concept of Open Education system is now performing its historic part as a valuable supplement to the conventional education system.

# 10

# Distance Education

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Terms like 'Distance Education', 'Distance Learning' and 'Correspondence Education' are being used synonymously. Ripleysims (Holmberg) expresses in U.N.E.S.C.O. report that "the unique and distinguishing feature in the correspondence education process is that the learner is at a distance from the teacher for much, most or even all of the time during the teaching-learning process."

Distance Education is an effective alternativeto the formal education. It has immense significance for the emerging learning society in general and educational undeveloped or developing society in particular. It has its message both for life-long education as well as for universalisation of education. It is a useful medium for promoting diversified as well as vocational education. It is a source of inspiration for those who have 'dropped out'' of it at some stage or other. In other words, the distance education is an organised provision for learning opportunity on part-time basis, outside the time table of the formal system of education covering a person's life time in his own environment, more or less according to his

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own perception and at his own time. It is therefore, democratic as well as socialistic in nature.

The Educationists and researchers were attracted to this distance Education system and felt that it could help in diffusion of education and equalisation of educational opportunities. Besides, cost of such correspondence course would be less in comparison with the formal system of education and its standards would not be lower in any way.

*Growth of Distance Education* : The growth of Distance Education can be traced back to the middle of the 19th century and a number of European countries like Germany, England and Sweden were pioneers in starting distance education. Then the U.S.A. and the U.S.S.R. developed this system of education in a big way by the middle of the 20th century. Subsequently this educational model was accorded with high priority in New Zealand, Japan, Australia and many other countries. After Independence, India faced the Colossal problem of educating teeming millions of students at all levels. Although a large number of schools and colleges were set up to cope with the ever increasing demands, it was not possible to provide adequate facilities of education in the formal system. The planning commission, the Union Ministry of Education and the University Grants Commission made loud thinking about the problems and appointed an Expert Committee under the Chairmanship of Dr. D.S. Kothari to explore the possibility of starting correspondence courses in a few selected Universities. Delhi University was the first University to start Distance Education in the year 1962. A review of the growth of distance education in India, reveals that during the sixties, only five institutes of correspondence education were established, namely Delhi (1962), Punjab (1968), Rajasthan (1968), Meerut (1969), Mysore (1969), During the seventies, 17 Universities started Madurai Kamaraj University (1971), Himachal Pradesh University (1971), Panjab University (1971), Bombay University (1971), Sri Venkateswara University, Tirupathi (1972), Andhra University, Waltair (1972), Central Institute of English and Foreign languages, Hyderabad (1973), Patna University (1974), Bhopal University (1975), Utkal University, Bhubaneswar (1975), Kashmir University (1976), Jammu University (1976), University of Kerala (1977), Osmania University (1977) S.N.D.T. Women's University, Bomby (1978), Udaipur University, Gujarat (1979), Annamali University, Annamalainagar (1979).

The School of Correspondence courses of Andhra University, Waltair was started functioning from 1st July, 1972 by introducing B.A. and B.Com. degree courses with some select specialisations under New Scheme with the approval of the University Grants Commission. The School introduced Liberalised Admission into B.A. and B.Com. degree courses in 1976. Under this system, Entrance Examination is conducted for admission into B.A. and B.Com. degree courses. No formal academic qualification is required to take the Entrance Examination. But the candidate should complete 20 years of age by 1st July of the year of appearance to the Entrance Examination.

M.A. (Economics) and M.Com. Courses were started in the year 1978-79 with the assistance of the University Grants Commission. Subsequently B.Ed. course was introduced in the School of Correspondence courses during the academic year 1980-81.

India's first open University was established by Andhra Pradesh in 1982 by an Act of the State Legislature and inaugurated by the President, Shri Gyani Zail Singh. The main objective of the University is to bring the benefits of higher education to all those who are desirous of receiving them, It offers diversified courses which are socially relevant, and economically productive. The Andhra Pradesh Open University offers inter-disciplinary courses in many fields. Open University, similar to Andhra Pradesh Open University, are likely to come up in five more states in the next six to twelve months. The State Governments in Kerala and Maharashtra have already appointed special officers to prepare the ground for starting the open Universities. The State Governments in Bihar, Bengal and Karnataka are also keen on joining the countrywide string of Open Universities.

Although, Distance Education system has been accepted as a part of the National Eductional Policy, adequate support in the form of human and physical infrastructure has not been provided so far. The attitude of the University Grants Commission towards promotion of distance education is not encouraging since during the year 1984-85, although the O.G.C. had a budget of Rs. 102 crores, the share of distance education in this budget was only 0.52 crores. In view of this fact distance education Institutes are suffering considerably on account of lack of infrastructural facilities and

### TABLE 1

### Enrolment particulars of various courses-class wise

| *S. No.* | *Course/Year* | | *1981-82* | *1982-83* | *1983-84* | *1984-85* |
|---|---|---|---|---|---|---|
| 1. | Introductory Course* for B.A. & B.Com. | | ... | ... | 5,003 | 4,500 |
| 2. | B.A. | I Year | 3,071 | 4,359 | 6,166 | 6,200 |
| | | II Year | 2,821 | 3,189 | 4,404 | 5,640 |
| | | III Year | 1,375 | 2,932 | 3,204 | 3,780 |
| | | Total : | 7,267 | 10,480 | 1,3774 | 15,620 |
| 3. | B.Com. | I Year | 924 | 869 | 1,355 | 1,400 |
| | | II Year | 804 | 815 | 1,094 | 1,000 |
| | | III Year | 621 | 658 | 986 | 1,240 |
| | | Total : | 2,349 | 2,342 | 3,435 | 3,640 |
| 4. | B.Sc. | I Year* | ... | ... | 81 | 75 |
| | | II Year | ... | ... | ... | 70 |
| | | Total : | ... | ... | ... | 145 |
| 5. | M.A. Economics | I Year | 262 | 151 | 300 | 300 |
| | | II Year | 300 | 134 | 152 | 268 |
| | | Total : | 592 | 285 | 452 | 568 |
| 6. | M.A. Pub. Admn. | I Year* | ... | ... | 493 | 400 |
| | | II Year | ... | ... | ... | 460 |
| | | Total : | ... | ... | ... | 860 |
| 7. | M.A. English | I Year* | ... | ... | 1,313 | 700 |
| | | II Year | ... | ... | ... | 1,210 |
| | | Total : | ... | ... | ... | 1,910 |
| 8. | M.Com. | I Year | 396 | 276 | 686 | 400 |
| | | II Year | 527 | 236 | 290 | 630 |
| | | Total : | 923 | 512 | 976 | 1,030 |
| 9. | P.G.D.C.R.S. | (One Year)* | ... | ... | 254 | 150 |
| 10. | B.Ed. (14 months) | | 550 | 750 | 750 | 1,250 |
| 11. | M.Ed. (14 months) | | ... | 100 | 100 | 100 |
| | Grand Total : | | 11,651 | 14,469 | 27,431 | 29,773 |

have to depend upon traditional Universities to get their infrastructure for organising some activities like contact programmes. This is a very unsatisfactory arrangement. To create physical infrastructure in the form of buildings, Library-cum-study centres, studio for the production of software etc., it is necessary that capital grants should be alloted by the U.G.C. as well as state Governments Council.

To make the distance education an effective learning based on home study, Distance Education institutions have to focus their attention towards Libraries since library is a more predominent agency and is in a strategically advantageous position because it combines the utility of reading materials including non-book materials like Mocro-print, Microfilm and Microfiche and Audio-Visual apparatus.

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# 11

# Andhra Pradesh Open University—Some Reflections

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## Prelude

The Andhra Pradesh Open Universty modestly claims pioneership in the field of non-formal education and distance learning through open system. It ushered a new era and added new dimensions to higher education. The Open University, United Kingdom, the first distance learning institution in the world, is a source of inspiration and served as a model for the AP Open University in the formative stages. The need for effecting necessary modifications to suit our conditions and requirments was kept in mind. Further, the concept of open education, in the present form, is new to India and, therefore, in the initial stages, when the concept is being translated into practice, it inevitably involves certain amount of experimentation.

## Back ground

The Open System of Higher Education is a colossal task and, at the same time, is a welcome challenge. There are no two opinions that the present-day institutions of higher learning are not adequate to cope with the increasing pressures from the aspirants. Further, it is a fact that the formal system entails larger expenditure. This warranted exploration of new avenues for providing higer education with flexiblity, not only in academic matters but also in other requirments like educational qualifications, age, attendance, etc. In our country, efforts were initiated way back in 1971, when the Government of India appointed a Committee under the Chairmanship of Sri G. Parthasarathy, the then Vice-Chancellor of Jawaharlal Nehru University, New Delhi. This Committee recommended in clearer terms the establishment of an Open University at the national level. But the credit goes to Andhra Pradesh for its initiative in this direction. The State Government have been thinking of starting an Open University right from 1978. The proposal took a concrete shape when a Committee was appointed in 1982 under the Chairmanship of Prof. G. Ram Reddy, the then Vice-Chancellor of Osmania University and the present Vice-Chancellor of Indira Gandhi National Open University. The Committee was asked to study and report on academic, organisational and financial aspects of the University. The report of the Committee paved the way for starting the first Open University in India. The Legislature of Andhra Pradesh enacted the Andhra Pradesh Open University Act in the year, 1982, to facilitate the establishment of the University.

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## Establishment

Quite fittingly to its nature, this unique University was inaugurated by Hon'ble Giani Zail Singh, President of India in August, 1982. It was equally in fitness of things that Prof. G. Ram Reddy was appointed the first Vice-Chancellor of this University. Its academic work commenced in 1983. The principal objectives of the University are : (a) to provide educational opportunities to those students who could not take advantage of institutions of higher learning; (b) to realise equality of educational opportunities higher education for a large segment of the population including those in employment, women including housewives and adults who wish to upgrade their education or acquire knowledge and studies in various fields through distance education; (c) to provide flexibility with regard to eligibility for enrolment, age of entry, choice of courses, methods of learning, conduct of examinations and operation of the programmes; (d) to provide programmes complementary to those of the existing universities in the State in the field of higher learning so as to maintain the highest standards on par with those of the best universities in the country; and (e) to make provision for research and for the advancement and dissemination of knowledge.

The University has made rapid strides within a short span of 4 years and its enrolment has increased from 7,500 in 1983 to 55,000 in 1986. It also had commendable results to its credit. I would like to congratulate all those involved in this prestigious endeavour. I may briefly indicate, in general terms, some of the problems confronting this unique educational experiment, to be of some guidance to the sister institutions joining the family of Open System of Education in the near future.

### Credibility

The primary aspect I would like to deal with is the winning of credibility in this innovative venture. The university admits candidates for undergraduate courses under two streams. The first one is : candidates who have passed the Intermediate (10+2) or equivalent examination. Keeping in view the openness and flexibility characteristic of the system, the university also admits candidates, without insisting on any formal educational qualification, provided they have completed the age of 20 years. An eligibility test is held for the latter, where the general communication skills are tested. The level of skills tested broadly corresponds to the intermediate standard, so that, a candidate who has passed the eligibility test is found suitable for prosecuting undergraduate course. In order to mainatain standards, the eligibility test is considered as a screening device, where only those who come up to the level of expected standards, in terms of communication skills, are admitted.

### Course Structure

In spite of the multi-media approach in the Open Education, the most important component of learning Package still continues to be the Print Material. Keeping in view the general University Grants Commission guidelines on the formulation of undergraduate courses, the Open University appointed Special Committees consisting of experienced academics drawn from different universities, both inside and outside the State, and evolved the undergraduate course structure. The four foundation courses in the first year are unique to the Open University system. They are : English, One Modern Indian Language (Telugu/Hindi/Urdu), Science and Technology and Social Sciences. These are the four compulsory papers for all the candidates in the first year.

In the language segment of the foundation course, the stress is on the functional aspect and communication skills, and not on the literature aspect of the language. Thus, the candidates would be able to acquire comparable skills in the languages, though they will be studying only for the first year, as against the study under Part I and/or Part II in the traditional universities. The other two papers viz. Science and Technology and Social Sciences provide a broad-based familiarity expected of a graduate student, so that, he can have an integrated understanding of the problems faced in the present-day situations. 18 different subjects are offered at second and third year stages under 3 faculty heads.

The total content of the course is in no way, quantitatively and qualitatively, lower than what is being learnt by a student in the traditional universities. The principle that the second year courses are generally considered to be representing the core area of the subject, and the papers in the third year are to be practice-oriented, is very well taken care of. A student of the Open University would be studying 12 papers in all, pertaining to the three optional subjects for the second and third year courses, in addition to the four foundation courses of the first year. Thus, the total number of papers studied in the Open University and the corresponding traditional universities is equal i.e. 16.

By nature of its teaching methodology, the Open University has an obligation to have the course material specially written to suit self-study. The course material, personal contact-cum-counselling classes, audio-video media of instructions, radio lessons and summer schools together act as an integrated package.

The students of the Open University will have around 42 hours (clock hours of 60 mts.) of personal contact with teacher per subject compared to a substantially more number of hours available for a traditional student. Our experience shows that the Open University student is better motivated, besides being more mature to comprehend greater detail in lesser time and acquire adequate confidene in coping with the standards. Keeping in view the problems of distance student, careful selection of the counsellors is made to ensure a higher level of acceptability on the part of the students.

**Evaluation**

The first batch of the students would be moving out of the university in December, 1986. Having tried the course material that was developed during the last three years, the university considers it fit to subject this meterial to extensive evaluation, both internally and externally, and ensure that the course material is revised in time in order to have it ready for the next batch i.e. for 1987-88. Further, the university is considering actively the establishment of an Evaluation Wing to facilitate feedback from the students, course writers, counsellors and experts in the field. This enables a constant revision and improvement of the course material, and also implementation of necessary programmes.

**Future Plans**

The first batch of Open University students will receive their degrees very soon. The university proposes to provide postgraduate educational opportunities for these students as well as others interested w.e.f. 1987-88. They include : M.A. (Political Science), M.A. (Public Administration), M.A. (English Literature), M.A. (Telugu Literature), M.Com., M.B.A. (for in-service candidates), besides certain postgraduate Diploma Courses like Journalism, Translation, Rural Management, etc. Rules governing admission and other aspects are being worked out. In collaboration with the Centre for Economic and Social Studies (CESS), the University has already started M. Phil. Programme in Development Studies, a unique inter disciplinary research programme, for the first time in the country. Further, it is also planning to start M. Phil. and Ph.D. Programmes in some of these disciplines. The academic bodies of the University are also considering the addition of some more optionals to the existing 18 subjects in the undergraduate course like Home and Environment, Computer Applications, Marketing and other Management-oriented subjects, etc. There is a pressing demand for offering postgraduate courses in various other Social Science Subjects like Sociology, History, etc. It is proposed to take up these proposals in a phased manner.

There has been an upward trend in the registration for the first year undergraduate courses compelling the university to expand its net work of the study centres, not only in important towns but also in the interior parts of the State. The Govt. is also encouraging the university to establish study centres in remote areas, particularly tribal areas, in order to ensure that the motto "Education at your Doorstep" becomes a reality. 25 Study Centres are added in the year 1986-87 bringing the number to 56. The increasing trend is likely to continue.

## Campus

The Government sanctioned 54 acres of land for construction of campus and the foundation stone was laid by the Chief Minister of Andhra Pradesh, Sri N.T. Rama Rao. The work will start after necessary funds are secured.

## Some Problems

In any area of new activity, problems of greater variety and dimension do present themselves. One of the major problems, an Open University would normally face, is the selection of editors and course writers. While a majority of the teachers are good at oral communication skills, it is really a new assignment even for an experienced teacher to develop the course material suited to the distance student. Consequently, there would be more than anticipated delays in the preparation of manuscripts for the course material. It would be necessary to ensure that the course material is properly edited, not only in terms of content but also in terms of structure. In our University, about 80 titles, in 3 instalments, had to be got ready and printed in thousands of copies, which really turns out to be a challenging task. Related to this process are items like selection of printing press, type-face, size of the book, procurement of white paper, art-work, particularly for science subjects, etc. The need for coordination is utmost in the open university system. Usually, the University would be eager to announce its admission programme soon after the first instalment of the course material is in its hand. But it is better to ensure that atleast 50% of the course material is ready before announcing its academic programme for various courses. Another problem, very much applicable, would be that of translating the course material into the regional language media. Translation, again, is likely to take considerable time; since both English and Language Media books are to be supplied simultaneously to the students, the work of translation needs special attention.

The uniqueness of the open university system lies in utilising the latest educational technology and the audio-video media, and integrating them in an effective manner with the print material. This presupposes a very well equipped audio-video studio, not only for the purpose of producing the audio-video tapes but also getting them ready for broadcasting the lessons on the A.I.R. The requirement of the audio-video studies are such that it might become a problem to acquire qualified and well-experienced persons. Our University has so far produced 836 lessons for Radio, 145 for Audio and 75 for Video. The tempo is to be increased.

The Open University, keeping in view the nature of its operations, has no other alternative but to rely on the existing colleges for infrastructural facilities and other requirements. Even though the Open University intends to utilise only the Sundays and evenings of the other working days, there would be some problems at the time of planning the examinations and also summer schools, because the schedule of examinations is likely to interfere on certain occasions, with the functioning of the regular colleges. For the Science Subjects. laboratory facilities are to be provided on Sundays and during evenings. It is a problem as costly appliances are to be allowed to be handled by relatively strangers to the equipment.

Unlike the traditional universities, the Open University has to regularly communicate with the students by post and the Press. Despatch of course material requires careful planning and coordination with the postal authorities. With all the attendant problems the AP Open University is marching forward with the unstinted cooperation of the Government. The University Grants Commission has recently declared it fit for release of grants.

## National Open University

The AP Open University welcomes the establishment of the Indira Gandhi National Open University. I personally feel that the National Open University can formulate schemes, besides the specially carved-out areas of operations of its own, so that, they will become handy to the State-level open universities. Study mat-

erial for certain sophisticated courses can be developed at the national level, and allowed to be translated into the regional languages, and offered by the State open universities. The National Open University can serve as a coordinating agency so as to avoid duplication of courses. While it is felt that the National Open University may offer different courses in English and the National language. Hindi, it is desirable that courses in regional media are left to the State-level universities. Further, it may ensure that courses offered by it are not repeated by the concerned State open univerities so that, the strength of the latter does not deminish. The National Open University may make it a point to ensure early transfer of developments in educational technology from interna-
tional experts and make them available to the State-level univer-
sities, at the earliest. For the purpose, it may have to organise
training programmes for candidates selected from State-level uni-
versities and sponsor them to foreign universities. It may think of
starting a Diploma/Degree in Distance Education, so that, the
counsellors who have to teach students of the Open University,
can be trained in relative aspects and problems of distance educa-
tion. Regular annual conferences of State universities would provide
a platform for exchange of views and sharing of experiences, so
that, the complex problems that are to be encountered at the
initial stages can be resolved with greater determination.

Last, but not the least, the National Open University may also act as a funding agency in addition to University Grants Commission to encourage State-level universities, in the development of new courses and revision of the existing material, in providing equipment for the States at concessional rates. It can help in obtaining time on A.I.R. and Doordarshan for the Open University, and also in designing uniform syllabus, as far as possible, so as to ensure transfer of students from one university to another.

I am sure, active cooperation of the Indira Gandhi National Open University will give a new impetus to the State open universities, and thus help them in expanding and strengthening their areas of operation.

The Andhra Pradesh Open University, as the pioneer in the field, will continue its endeavours to fulfil its objectives. Results may not always be commensurate with the endeavours. Therefore, endeavours shall be proportionate to the results anticipated. Realising this, the AB Open University will put in maximum efforts :

How much of vapour, flying away, forms a cloud ? How much of breath, contracting, makes a Yoga ? How much of sound, that tears apart, the navel and surges out of the entrance of the throat, creates a Raga ?

# 12

# Distance Education—An Overview

GUNVANT B. SHAH*

Education has long been recognised as an important factor in the process of development. The 1960s witnessed profound changes in the perception of the 'development' phenomenon. In the late 1960, the need to widen the horizon of 'development' beyond a narrow focus of economic production was apparent. In 1970, the General Assembly of the United Nations resolved that "as the ultimate purpose of development is to provide increasing opportunities to all people for a better life, it is essential to expand and improve facilities for education, health, nutrition, housing, and social welfare, and to safeguard the environment".

One must think of education, therefore, not only as a 'sector' of development—parallel, for example, to agriculture of industry—but as a pervassive element that must be integrated horizontally and vertically into all development efforts.

The use of mass media, particularly radio, increased in the late 1970s. In the Sector Policy Paper on Education recently published by World Bank (April, 1980), the following analysis of the evaluation of costs and results has been presented.

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In the ultimate analysis, the teaching-learning process is but a process of communication. Those who are concerned with effective teaching and learning should, therefore, work upon improving the Communication process.

**Uses of Radio in Formal Education**

| Strategy | Obectives | | |
|---|---|---|---|
| | Improve access | Improve quality | Reduce cost |
| **In-School Enrichment**<br>provides occasional lessons beyond the ability of teacher to provide enrichment | No | May be | No |
| **In-School Direct Instruction**<br>provides most of the instruction in one or several subjects | No | Yes | Usually no |
| **Extended Schooling**<br>provides enough instruction that a qualified teacher may be replaced by a monitor | May be | May be | May be |
| **Distance Learning**<br>in which technology (radio, correspondence) combines with textbooks and occasional personal contacts to replace both teacher and school | Yes | Usually no | Yes |

In order to maximize the gains of learning one must try all possible channels of communication. While considering the efficiency of teaching-learning process, one must not confine one's thinking to what happens in the classroom. As the report of the

Education Commission (1964-66) clearly states:"There must also be a method of taking education to the millions who depend upon their own effort to study whenever they can find time to do so. We consider that correspondence or home-study courses provide the right answer for these situations". The Report further States: "the correspondence or home-study course is a well tried and tested technique. Experience of correspondence courses in other countries of the world, such as the USA, Sweden, the USSR, Japan and Australia, where they have been used extensively for a long time, as well as the limited and brief experience at the University of Delhi, encourage us to recommend fuller exploration of the method for a wide range of purposes. There is hardly any ground for the apprehension that correspondence courses are an inferior form of education than what is given in regular schools and colleges. Experience abroad and experiments in India have shown results which, on balance, tend to strengthen the case for correspondence education.

Distance Education purports to take education beyond correspondence education. It implies utilization of mass media like Radio, T.V., newspapers, wall papers in addition to traditional correspondence courses. Correspondence courses can go a long way in making the external courses run by our universities more meaningful. Universities like Bombay and Delhi are already having a network of correspondence courses. The National Council of Educational Research & Training, New Delhi through the network of regional colleges has done considerable work in developing correspondence-cum-contact courses for the school teachers.

The largest purveyor of correspondence education in the USA is the Federal (Central) Government, led by the Armed Forces. University Courses are regulated by the National University Extension Association, while non-university courses are governed by the rules framed by the National Home Study Council in Washington. In Britain there are about 5,00,000 people studying by post. It should be remembered that correspondence education has notable economic advantages both for the student and community. According to a Russian calculation, it costs three times as much to train a student full time and one and a half times to train him in an evening class as it does to teach him by post.

As regards the process of communication it would be a good idea to note the following research findings which the Industrial

Audio-visual Association made several years ago in their efforts to know appropriate uses for audio-visuals.

| | | | |
|---|---|---|---|
| We learn— | 1% through taste | We remember | 10% of what we read |
| | 1.5% through touch | | 20% of what we hear |
| | 3.5% through smell | | 30% of what we see |
| | 1.1% through hearing | | 50% of what we see and hear |
| | 85% through sight | | 80% of what we say |
| | | | 90% of what we say as do a thing |

Harold Lasswell's communication formula, "who, says what, in which Channel, to whom; and with what effect ?" became the basis for the journalism-oriented communication people. In this formula the steps involved are :

| | | |
|---|---|---|
| STEP-1 | Control Analysis (WHO) | Teacher |
| STEP-2 | Content Analysis (SAYS WHAT) | Lecturing, questioning, etc. |
| STEP-3 | Audience Analysis (TO WHOM) | Students |
| STEP-4 | Media Analysis (IN WHAT CHANNEL) | Method and means |
| STEP-5 | Effect Analysis (WITH WHAT EFFECT) | Teacher Effectiveness |

In this context it is necessary to view projects like SITE in a broader perspective. One should not be blinded by the technological dazzle, no matter how brilliant. Any innovation that we take up has to be viewed in the social, cultural and economic context in which it has to function.

The example of China is germane here. Judging by its achievements, its scientific establishment is no less brilliant and inventive than our own. But that country's overall progress, the advances it has registered in its thousands of villages, have come about through a reliance not on sophisticated technology, but on its opposite; small-scale appropriate technology based on the villager's traditional skill and flair for improvisation and the utilisation of materials close at hand.

In education, for instance, the system is based on the principle of "walking on two legs". There is a smaller, formal school and higher education system and a much larger, non-formal pattern under which education is the responsibility of production teams (the basic organisational unit), production units (one rung higher) and communes. Decentralisation is combined with the mobilisation of local effort to ensure that "there are schools almost everywhere...and almost everyone, regardless of age or sex, is a student". The same approach is evident in other fields of endeavour like public health and hygiene and medical services.

At the global level substantial progress has been made in educational development since the 1950s; enrolments have increased at an unprecedented rate, local leadership cadres have been formed, and education systems and institutions have become better organized and have extended their reach to areas previously unserved. Despite these impressive achievements, and to a certain extent because of them, education continues to face problems that complicate further development.

In India, for example, there are about a hundred million illite: rate persons in the age-group of 15-45 years as against almost an equal number or students going to schools and colleges. The formal structure of education can no longer cope-up with the increasing demands that are being made from various sectors of social development. Today, Indian education, suffers from certain horrible imbalances, such as :

—formal vis-a-vis non-formal education;
—enrolment of male students vis-a-vis female students;
—rural development vis-a-vis urban development;
—liberal education vis-a-vis vocational education;
—theory vis-a-vis practicum; and
—work experience vis-a-vis book experience.

In Gujarat, Gujarat Agricultural University has successfully conducted correspondence courses for the farmers all over Gujarat in the following areas :

| Courses on | No. of subscribers |
|---|---|
| 1. Cattle Care & rearing | 2500 |
| 2. Engine Pumps : Preservation and energy conservation | 500 |
| 3. Poultry Care & rearing | 1000 |
| 4. Fruit trees : Care & Preservation | 1000 |
| 5. Cotton growing | 400 |

It is hoped that a well-planned strategy of distance education based on maximum utilisation of mass media would ensure the removal of some of the imbalances which are eating into the vital of Indian education.

Let us not look upon distance education as a mere innovation. Let us try to look upon it as a pragmatic approach of extending education to the millions of people for whom the word 'school' would remain a distant dream for years to come. The real probelm is not that we bring them all to the 'school' but to take the school to wherever they are and wherever they work.

Distance education at the massive level is not too distant a dream. Even if it is so, it is a dream that deserves to be real.

# 13

# Management of Distance Education

JOGINDER KAUSHAL*

The rapid pace at which we are marching towards the 21st century, striding in triumphant in another few years, puts enormous pressure on us to look around for how best we can harness available resources and put them to optimum use.

It is a happy sign that the Govt. of India's rebaptised Ministry of Human Resource Development, has awakened at long last to the need for bringing about radical changes in our educational structure—an area almost neglected since independence. In his first Policy Statement, Prime Minister, Mr. Rajiv Gandhi referred to the setting up of a National Open University so as to take education to the people's doorsteps.

In the developing conntries of the world, the concept of distance education is fast catching up. More and more students are seeking admissions to correspondence schools. The knowledge that per capita expenditure on education is constantly increasing puts our educationists on the alert. In the developed countries of the world, distance education is popular, although for different reasons.

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There young boys and girls would like to get involved in readily available gainful employment after they attain majority and get their education as a continuing process. We are looking forward to the day when in India some miracle takes place in either the thinking pattern of our young population or in the economic pattern of our country. To elaborate the former, if our youth takes to the family occupation, whatever it is from astrology to shopkeeping after his matriculation and decides to get higher education through correspondence, it would be an ideal arrangement. It would be better still if our planning generates more job avenues for our young persons so that they get higher education through correspondence schools. Even now we find more and more persons join postal courses. And that makes us think of how best can manage our distance education system.

A two-pronged strategy is needed for managing our distance education system : Academic and administrative. Since the focus of attention must be academic, the administrative or the executive staff should ensure promptitude in handling the educational wares.

At the academic level, the first thing should come first. Central to all schemes of things in education is the teacher. No doubt, we have teachers to train pupils in our distance education schools, but we have none to train teachers in this non-formal system of education. It is rather amazing that there are teacher-training colleges for the school teachers but there are none for those who teach in seats of higher learning; and all those who are teaching there drift into that profession by accident and not by design. Straight from on the benches, they get behind the lect. It is a reversal of roles, a student yesterday, a teacher today. Naturally that obviates a judicious choice of teachers for our centres of distance education, if spoken word is supreme in formal system of education, it is the written word in non-formal system. Only persons with a flair for writing should be recruited. The polarities that separate the two systems, the formal and the non-formal, are characterised by the written and the spoken word. The spoken word has a tendency to get scattered in the air. But the written word is open to public scrutiny, delivered on open-circuit broadcasts. It must carry on it the stamp of authenticity, meticulousness. Hence in the management of distance education, a team of distinguished scholars with a remarkable command over language and a knack of turning out neat phrases and handling the educational material with care is needed. It is here that idea of making distance education cellular comes in.

Hitherto in most of the universities, correspondence courses departments have been in use as havens for mediocrities who cannot make the grade in academic departments. The reason advanced is that centres of distance education are not research oriented. There seems to be no reason why research cannot be incorporated in Correspondence System of education. To speak just in the parenthesis, Punjabi University, Patiala is the first University in India to launch M.Phil. programme for in-service lecturers. After M.Phil., many of these scholars will be doing their Ph.D. with the faculty of the Directorate. The management of disiance education should have research programme in all the disciplines it is servicing.

In any case, special arrangements have got to be made for training our teachers before they take up assignments with schools of Distance Education. Simply because this experiment when tried in Kampala by Kyambogo Government Teachers-Training College, the earliest Teacher-Training Programmes for Correspondence Teachers, had just flopped (ICCE's Newsletter, 1983) should be no damper because the failure of the experiment took place way back in 1953 through 1961. The world has by now made rapid strides. New means have emerged so that a greater degree of coneentration can be brought to bear on this aspect of Teacher-Training. As opposed to Kampala, the pattern tried by Uganda can be adopted, 3-week training of 8 Teacher-Training Colleges in Uganda, each college headed by a Course Director and 8 tutors. This kind of exposure is essential for teachers. The report of ICCE's Newsletter relating to 1981 shows that trained teachers are doing better job in teaching through correspondence. It goes without saying that unless we have professionally trained teachers, distance education cannot be effective.

As a part of the latest revolution in the field of education is the availability of media as an effective vehicle of communication. Teaching through visual aids has an instantaneous appeal on the relatively fresh minds. Whereas the role of media such as radio, television, audio/video cassettes, linguaphone etc. may not be very pronounced or even relevant in a formal classroom system of education, its role in distance education can hardly be underestimated.

In India, our teachers are still teaching with the traditional methods. But may be a switch-over is round the corner. It is a happy augury that the educational administration in India is aleady thinking of making distance education a multi-media system. Various universities in India are pressing hard to set up Audio Visual Centres/Educational Media Centres (AVC/EMC) as a central facility for purposes of pressing latest teachnology into educational use. Before this is done we have to ensure that our teachers are properly trained in the art of handling hardware and software. Also, perhaps, more importantly, the man in the teacher has to be saved from being hidden behind the machine.

Media cannot be made effective by the appearance on it of robots. In any scheme of things, the vibrant being of man is more important than the media. The voice whether heard in a face-to-face conversation or through the linguaphone or on the audio cassettes has got to be the twin of man's vision. Such teachers have to be judiciously selected for this job.

If we want Distance Education Centres to be really impactful, it is necessary that a complete financial and functional autonomy is given to them. It is a big question as to how these Distance Education Centres should be funded, through the government aids, through the munificence of philanthropic individuals or organisations or through the money coming by way of fees from the students themselves. A mechanism has got to be worked out for getting our Distance Education Centres funded. Major portion of the finance should come from the beneficiaries of distance education and a certain percentage from beneficient agencies which subscribe to the dictum : *Vidya Daan Mahan Kalyan*. Efforts must be made to make distance education participatory. On the governing bodies of our correspondence schools should be nominated distinguished persons who can, on an assurance of accountability, create special endowments for running Centres of Distance Education—something like in Spain known as the "Patrons of the University". Distance Education is after all primarily for those who are in-service, as proposed earlier; right in proportion to the enhancement in their financial position, they should contribute to the funds of these centres; the school is the Alma Mater, symbolising the mother and the children's concern for the mother will carry an aura of religiosity about it.

As to the functional autonomy, now when there is a talk about setting up of autonomous colleges, there is no reason why Centres of Distance Education should not be given this autonomy. For another reason too : the exponents of the Formal System who proclaim academic excellence as their ultimate goal are generally either averse to or ignorant of the basic commitment of distance education to also the in-service people with long standing in their profession who just want to improve their qualifications and for whom job-oriented courses are usually launched by the universities. Our Postgraduate Diploma in Management of Public Enterprises, Public Relations and Advertising, in Library Science or M.Ed. course have on our rolls in-service students who represent a cross-section of society. These courses are self-supporting. It is amazing that Distance Education Centres have to get a clearance (may be in a few universities) for launching such courses from the Boards of Studies and Academic Councils, packed with 'Sanatanists', advocates of Formal System of Education.

In the words of Vice-Chancellor Sir Walter Perry of Open University, London, "...departmental control of teaching is the root cause of all that is wrong with educational programmes in conventional universities" (Open University-Page 83). This refers perhaps to the framing of syllabi and courses of reading by the various Boards of Studies which have no nominees on these Boards of the Directorates of Correspondence Courses. Sir Walter Perry does not mean that academic departments have a lesser role to play. He wants these departments to remain the nuclei for research (I personally see nothing wrong in correspondence education assuming that role also for itself, as pointed out earlier).

So long as the autonomy to frame their own courses of study and evolve their own syllabi is not given to Distance Education Centres, it should be ensured that Boards of Studies that at present function as framers of syllabi have on them a fair representation of correspondence schools which supply the major bulk of students to the university. Nor should there be frequent changes in the syllabi. We have to take into account the cost entailed in the preparation, printing and vetting of the course material. The publisher's and booksellers' gain should not be the loss of Centres of Distance Education.

Functional autonomy is needed. In some of the universities, the number of students enrolled with the Directorates of Correspondence Courses far exceeds the total enrolment with all the academic departments put together. The total budget of the university divided over the number of students, enrolled—especially for Master's courses—would present an alarming picture, if the number of drop-outs or the over-all poor grade obtained by the majority of students are taken into account. Wastage of human potential at the faculty level makes the picture still more alarming. Research produced by the teachers in academic departments is not proportionate to the money being spent on each teacher in the academic departments by way of salary, establishment, library etc. (This is more true of Humanities). This situation was flippantly put in the famous not very laudable remark : "a lecturer is he who lectures; the reader is he who reads and the Professor is he who neither lectures nor reads but professes."

Whereas the system is hierarchical in regular departments, it should be cellular in Centres of Distance Education, each cell representing one academic discipline and headed by the core staff consisting of one or two eminent members on the faculty and all work being done on secondments.

Administrative Wing of the Distance Education Centres, on the contrary, should be hierarchical with a Registrar at the apex and other functionaries heading various operational sections so that a responsibility is ultimately fixed for every operation, from getting the written or audio-visual material prepared and having it despatched, received back and re-despatched as a feedback to students till they get their certificates and degrees. The cellular approach is advocated in Academic Section because the responsibility must rest squarely on the cell rather than on the individual. Course work, team teaching, evaluation work relating to response sheets, itinerant teacher moving by turn on a circuit, staying at the well equipped-Resource-cum-Study Centres to give audio/visual displays are tasks, all of a cellular nature rather than hierarchical.

In stating that the teachers in University should take a public stance on issues of vital socio-political importance, Sir Walter Perry has made a highly provocative statement and put to debate the role of learned persons teaching in seats of higher learning. Here is a suggestion which needs be taken seriously. Particularly by a country like ours where we are torn as under by narrow considerations of caste, creed, religion or language. This stance may be counter-productive in a formal system of education or limited in its ends in a formal system of education where the number of students in a classroom seldom exceeds 30 at the postgraduate level. Such a potential programme can be of immense value in correspondence schools where thousands of our students can be provided a wide spectum of responsible opinion on issues of vital socio-political importance. This must, however, be said that this suggestion is fraught with grave dangers if handled by men of ordinary calibre. Socially oriented teachers of Walter Perry's specifications must be persons of high voltage working with a missionary zeal not only to teach the prescribed subjects but also to evolve a newer man with a broad mind and generous propensities. This obviates a greater degree of personal contact between the teacher and the taught.

For a couple of years New Zealand Correspondence Schools had five teachers, each based in a particular area of New Zealand and responsible for correspondence students in that area. These teachers in New Zealand visit students' homes, study their familial environs, supervise students' day-to-day progress and report to be the central units. Some such experiments can be tried in India. We can have itinerant teachers moving on a circuit and staying at various places depending upon the concentration of students at that place or at places contiguous to it. But it needs be repeated that this is a task not be assigned to low graders, or persons with irresponsible nature. Itinerant teachers must be like monks, thoroughly disciplined so that they could address themselves to their students in a more effectual and dynamic relationship.

While deliberating over the management of distance education, we should work out the possibility of Open Universities on Zonal basis rather than on State or provincial basis. There are so many uneasy trends visible in the socio-cultural life of our country that we can no longer sit back in a state of inaction. If politically we could not bring about cohesion or unification, at least academically we can. Our educational planners can give thought to setting up five Open Universities under the overall control of Indira Gandhi National Open University. Each Zonal University should have a common syllabus and common courses of reading with flexibility enough to keep provision in it for providing effective instruction in and ensuing growth of what is evocative of the peculiar ethos of each culture living for ages in that zone. Whereas History, Geography, Economics, Political Science and allied subjects together with Physical Sciences may be common to all States, dialect, legends, mythology, religion and rituals which constitute culture may be different. In our desire to evolve unity, we should not kill diversity. Unity in diversity is our motto.

The idea behind the suggestion can be concretised by restructuring our distance education along these lines. Our field being far more vast and the numbers larger and maturer, the aim can be achieved with greater precision. Our Personal Contact Programmes held round the year and at different places can provide interaction of minds which will enfeeble and eventually annihilate chauvinistic, linguistic and other separatist ideas.

# 14

# The Delivery System in Distance Education

D.P. VERMA*

In little more than two decades, India has made rapid strides in the field of 'Distance Education'. With the establishment of Indira Gandhi National Open University, New Delhi, in 1986, it may well be said that in this important aspect of education, India has come of age. Much has been written about education as a vital input in modernisation and development of the country. It has been repeatedly stressed that in a democratic set up, social justice demands provision of educational facilities to the maximum number of people. The establishment of the institutions for providing education through correspondence is a step towards this objective. The system has enabled thousands of young and even not so young people to see their dreams come true. In a way the concept of social justice is inbuilt in the system of distance education. The basic concept behind distance education is to provide some effective means to equalise educational opportunities. Higher education is no longer the exclusive preserve of the elitist class. It has reached the doors of those who are its keen seekers. As is well known, since independence there has been a manifold expansion in the field of education—schools, colleges, universities have all multiplied with tremendous pace. But even then we shall continue to have a low literacy percentage by the year 2000. However, well-meaning efforts are afoot to eradicate illiteracy and the task is very complex one; for giving shape to the policies and programmes of enormous dimensions, sustained efforts are needed for long periods before satisfying results surface. As elsewhere, in India also education was provided at almost all levels through the formal system alone, with the exception that a certain section of people, like women and some categories of employees, etc. had the facility of preparing and taking some examinations from the school-leaving-stage to the postgraduate level, in the capacity of what is called 'private candidates' . This facility did help quite a number of people in satisfying their urge for higher education mainly on the basis of self-help. However, distance education has come to fill the void in an organised, systematic and scientific way. The formal system of education shall continue to play a vital role in the field as nothing can supplant it; but the non-formal system has come to the aid of thousands of people in realising their aspirations. It is supplementing the formal institutions which in a way are inhibited by many constraints to take up the enormous task of providing education in various fields and professions to the ever increasing number of young persons.

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The credit for blazing the new trail in the matter of education by correspondence in our country goes to the Delhi University which took the initative sometime in early sixties. However, the University Grants Commission (UGC) undertook to provide substantial assistance to the universities which instituted correspondence courses, as the Kothari Commisson Report (1964-66) strongly advocated the adoption of the system of non-formal education as a means of providing greater opportunities for higher education to those who had no means to get the benefit of college or university education as such. Thus during the last two decades nearly 30 universities have been able to provide educational opportunities to many through the system of correspondence education.

The UGC laid down certain well-considered guidelines for the organisation and management of correspondence courses, prepartion of written material and lessons, evaluation of assignments prepared by the students, number of teachers to be appointed for the purpose, and the like. In the guidelines, it was, inter alia, suggested that corresponence courses should be started only by those universities which have well-established teaching department noted for their high standards. It was added that the academic responsibility for the contents of correspondence courses in any given subject, and its standards, must be taken by the corresponding subject department in the university.

Unfortunately this has not happened. In fact the hope of a cooperative venture has been belied and the correspondence course teachers and their counterparts in University Departments took up attiudes which could well be said to be the very antithesis of what the UGC had suggested or visualised.

The Institutes or Directorates of Correspondence courses also began functioning as islands in themselves and no bridges of understanding and cooperation were put up in the purely academic pursuits between the two sets of faculty members. Each entity thought that its own world was unique, different and self-contained if not superior to the other. Personal factors played their own parts in perpetuating unhelpful and sometimes unhealthy attitudes. The infrastructure created for organisation and management of the correspondence courses, more or less, followed the pattern obtaining in the colleges, with some difference in nomenclature and methods of work, etc. Administratively, the routine practices and provisions followed in the offices came to be adopted. Both the measures were not suited to the system and concept of distance education. At least in some universities, the leadership of these institutes or directorates fell into wrong and undesirable hands. The privileged position was used in some cases, almost with impunity, as a means to further one's own personal ends and interests.

The courses offered to the students by the correspondence institutions are the same as are offered to the students getting formal eduction in the University Departments and colleges. Since the examinations for regular students and correspondence students are common, the latter have to be given examination-oriented study courses so that they are able to complete with their counterparts in the colleges, etc. The weaknesses of the formal system have to some extent hedged in the growth of education by correspondenee on proper lines and through modern media and techniques.

Teaching by correspondence has become an accepted mode of learning in the system of education and it has acquired for itself a position which is quite unique. A new system in a way generates a set of sceptics. But fortunately the 'doubting thomases' in this case has a short span of life because of the actual impact made by the system and the number of students enrolled in various countries for these courses. The Open University, London has been a pace-setter in the matter of providing quality education through correspondence. This University came into existence about 17 years ago, but has created a niche for itself in the world of higher education. It has set methods and standards of instruction which, to say the least, compare favourably with those of any other well established university in England or elsewhere. Apart from the multi-dimensional nature of its courses, including those of professional and technical faculties, the uniqueness of this University lies in the fact that its courses and learning programmes are based on inter-disciplinary approach and a multi-media teahnique. The methods of instruction comprise correspondence courses, radio instructions, T.V. viewing. use of taped education material, discussions and teacher-student contacts. Most of the teaching is done over television and radio. The very fact that the Open University has more than 60 thousand students on its rolls and who devote 10 to 12 hours of study per week, is an indication of the measure of the success of its programmes, the seriousness of the students and the impact of its highly talented faculty. It is not only the provision of opportunity for higher education that is important, but the success or otherwise of the whole system depends upon the quality of the teaching programmes and the way in which these are carried out and the contact established with the students. In countries like Sweden, France, USA, Australia, Canada to mention just a few, a large measure of success has been achieved in working the system because steps to ensure quality were thoughtfully initiated, evolved and carried through. In India our main concern has, so far, been in terms of number as such.

Rapid physical expansion of correspondence education, establishing of open universities in some States and finally of the Indira Gandhi National Open University in New Delhi, is a matter of great satisfaction for the reasons which have already been ascribed; above but the real success of these institutions would be judged by their clientele in particular, and by the society in general, on the basis of the quality of instructional material which their students receive, its time factor, proper and regular delivery of the lessons and the seriousness and sincerity with which the assignments given to the students are evaluated and returned to them with proper guidance and encouragement. It has well been said :"correspondence department is more than a mill receiving and grinding out study guides because qualified teachers who are trained in the specialised kind of teaching conceive it their duty to set up and keep oiled the machinery which encourages and rewards excellence in teaching." Two things need to be noted here. First, that people who are to teach through correspondence should have acquired specialised kind of teaching skill, and second that the ideal should be to attain excellence in teaching which in a general way is considered to be the objective of every institution of higher education like a university. But in our case the hiatus between what ought to be and what in actuality obtains is quite wide. If the recruitment of teachers for correspondence courses during the course of last one and a half decade is considered and analysed, then it would be more than obvious that they have gone through nearly the same process of selection as teachers for colleges and university departments. They are more or less equated with college teachers who are supposed to be eligible for the jobs with lesser qualifications than the teachers required for University Departments. A scrutiny of any advertisement for recruitment of teachers in any correspondence course institution would provide ample testimony that no special skill or training course, etc. for the purpose are required; rather there are hardly and facilities provided by the universities for the acquisition of such specialised skills or training. It has to be accepted that the back-bone or correspondence teaching is the quality of the material produced and its proper printing, etc., which alone can create an appreciative impact on the mind of the student. Not only that; the regular instalments of lessons or unit of lessons, is the *sine* *qua non* of the proper working of the system. There should be no haphazard manner of splitting the prescribed course to be gone through in a year into some number of lessons. As a matter of fact it has well been suggested that adequate care needs to be taken to see that the split of units is logical, viable and sound.

The media aid is not sufficiently available in our country for purposes of imparting instructions to those undertaking study through correspondence courses; the course material prepared by the teachers of correspondence education is what the students have come to depend upon almost wholly. Radio and T.V. lessons are few and far between and all students do not get the benefit of these as is supposed by some. It has to be realised that no subject or theme can be adequately dealt within a single lesson or some units of lessons. The course material sent to the students, therefore, needs to be supplemented by a list of suggested readings of scholarly journals and reference books. It is true that some chunk of the students who enrol themselves for corresopndence education live in such remote areas where even ordinary library facilities are not available or they do not have the time and the resources or even access to such centres for supplementing the knowledge imparted in the lessons supplied to them. Even then the attempt on the part of the teachers should be to encourage the student to consult something more than what has been presented to him with a view to helping him in broadening his outlook and enriching his mind. The course material in the form of lessons or units of lessons does provide reliable help to the distant learner and gives him an opportunity for skill development, encouraging him to increase his awareness of his own learning style. But since the distance student is employed, whole-time or part-time, or is at a place which is far removed from good libraries, he has to almost depend upon the course material provided to him. It therefore, becomes incumbent that lessons should be complete and comprehensive without being cluttered with unnecessary details. The help of persons who have gained experience and eminence in thier subjects should invariably be sought; well-known retired teachers could also be persuaded to vet the material so that its quality is ensured. The printed lesson, as stated earlier, should be free of blemishes, but at least in some cases the picture is just the opposite. Academic soundness of the lesson needs hardly any stressing. A lesson which tends to make a student struggle for comprehending it and one in which the printer's devil has created havoc, brings in a certain degree of discouragement and that defeats, to some extent, the very purpose of providing education through this system. It has well been suggested that a correspondence student should first be helped by supplying him with a brochure which should enable him to understand the method of studying the lessons before the first part of the lessons, etc. is sent to him.

The system of education through correspondence would remain incomplete if the students who enrol themselves for study through this system just have an attitude of accepting something which has been sent to them, indulging in rote learning as is done by other students, and then reproducing the information so stored at the time of the examination. The material received should inspire and impel the student to write back his genuine impressions; he should be required to do his home assignment to the maximum extent as part of the process and no laxity should be shown in this matter. But just as in the case of colleges, the house-tests have lost their relevance or seriousness, so, in the same manner and for mostly the same reasons, the written assignments in correspondence institutions are not taken care of in very serious manner by the students, and whatever small percentage of these are received, is casually gone through by the teachers; it has become more or less a routine thing, something like the ritual of marking the university examination answer-books. Perhaps we read less, we write far less and thereby hangs a tale.

The regular receipt of studiously prepared lessons and honestly done assignments by the students alone can ensure the success of education through correspondence. The UGC guidelines have very correctly stressed the need for compulsory submission of response sheets on assignments given to the students. As a matter of fact the universities should insist that at least 50% of the total number of assignments given to the students are responded to by them as has been done by the University of Mysore, even though the UGC has prescribed a lesser percentage. One sided flow of instructional material without any adequate response and feedback from the students is not in the larger interests of the students themselves. The quality of education imparted through correspondence courses would greatly depend on the steady and continuous two-way flow. If there are fewer and irregular submissions of home assignments given to the correspondence students then the quality of education acquired by them would be poor.

Besides the home assignments given to the students, it may perhaps be appropriate to think in terms of giving them 2 to 3 tests per term. This would make them more serious in their studies and may result in improving the quality of the academic programmes undertaken by them. It is not being suggested in any manner to introduce an element of routine examination with which many an evil is associated. The tests could be on the reliable basis formulated in open universities elsewhere. We can with advantage adopt many of the good processes in vogue in those institutions like tutorials, etc. but should be careful in avoiding those things which do not fit into the conditions obtaining in our country on account of poverty and certain other related factors.

In the system of distance education the effectiveness of its academic programmes would depend to a large extent on the efficient and smooth handling of the job by the administrative apparatus of the concerned institutions. The procedures and the rules, etc., formulated for administrative purposes should be flexible but the principle of accountability should not be overlooked. The idea is to ensure that no bottlenecks are created to affect adversely the pursuit of the academic programmes by the faculty and the students. The timely despatch of lessons to every student, and the distribution without delay of the assignments received back from them to the members of the faculty, would enable the institutions to provide satisfactory services to the students some of whom may be actually belonging to far off places. The work regarding despatch of lessons etc. should not be treated at par with the disposal of routine office dak. For this purpose, the administrative staff also should be provided adequate type of training so that they are able to realise the importance of instructional material reaching the students in time; similarly, equal importance needs to be bestowed on sending back assignments evaluated by the teachers without delay. The usual hierarchical pattern of administrative units may not be of much relevance or use in the correspondence education. The whole structure of administration should be functionally so organised as to facilitate smooth two-way flow of educational material. The success of distance education, at least to some extent, would depend upon the way and the manner in which the administrative set-up has been organised and functions.

There is nothing wrong in borrowing with advantage some of the good things and practices from those open universities which have achieved commendable success in their programmes. But any attempt to adopt in a wholesale way, the programmes, procedures and methods etc. which are relevant to the students in those countries, would perhaps not be much use of the institutions here. Again, one sometimes finds that we are caught in the web of some cliches and high-sounding phraseology used in the material coming from countries like America. This attempt to blindly import something not relevant to our circumstances and conditions should be discouraged. We should make attempts to evolve our own pattern, our own methods and procedures to deal with the task facing us. It would do us some good to be innovative ourselves.

# 15

# Instructional System for Distance Education

M.B. MENON*
VIBHA JOSHI*

Distance learning in higher education was initiated in India during the early sixties in the form of correspondence courses started by a few universities. The seventies saw a vast growth in the number of universities coming forward with their own correspondence programmes. By early eighties there were more than 25 universities and colleges providing correspondence courses of varied nature. These programmes although provided the flexibility of learning through correspondence mostly had the rigidities such as entry qualifications and examinations comparable to the formal programmes of those universities. A breakthrough in these rigidities occurred when the Andhra Pradesh Open University was established in 1982 exclusively for distance education purpose. This university has adopted the autonomous and flexible structure similar to the Open University of U.K. The system of higher education through distance learning entered a new stage in India with the launching of the Indira Gandhi National Open University (IGNOU) in September, 1985. The university has been assigned the-responsibility to coordinate the distance learning system in the country and determine its standards.

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A few features envisaged by the Government of India for the IGNOU are as follows :

(i) Programme will consist of undergraduate degree as distance education. Diplomas will be in areas such as distance education, management, rural development, computer service and creative writing.

(ii) Emphasis will be on the areas of relevance to the needs of women and teachers.

(iii) Structuring of courses will be on a modular pattern with the facility for accumulation of credits. Arrangement for transfer of credits from formal to non-formal system and vice-versa is to be provided.

(iv) Separate Radio and T.V. channels will be sought.

(v) An open university system is aimed at, IGNOU taking the lead in integrating and cooperating with State level open universities also. Academic guidelines and finance will be provided to the open universities.

The above features provided only a very superficial picture about the nature and structure of the new National Open University. Probably a detailed formulation of aims of such a university, analysis of the needs and characteristics of the target population, studying the nature, potential and feasibility of variety of media which suit not only the instructional aims but also the characteristics of the target population, selecting the most suitable contributions of media, deciding the mode of utilizing and presenting the media and formulating the pattern of feedback mechanism may have to be worked out for effective organisation of the programmes.

The present paper attempts to suggest a few concrete ways of integrating the various media and resources available for distance education in order to evolve an effective and feasible instructional system for the open university. The already proposed framework of the IGNOU is broadly accepted and the focus of this paper is to suggest details cencerning the instructional system within that framework.

## Aims of Higher Education

It may be worthwhile to reiterate the main aims of higher education. Generally it aims at not only imparting and enchancing specialised knowledge and skills in different areas of learning, but also develop leadership qualities in its clientele in order to take up leadership roles in various fields. These qualities would include, both the cognitive abilities as well as certain affect attributes. The cognitive abilities are of crucial significance when one considers that personnel trained in higher education would be called upon to examine critically different situations, analyse them to identify the problems in the context of the needs of the community and take decisions through a problem solving approach. Since the leadership role shall have to be played in different walks of life in close association with members of the community, certain affect attributes such as social sensitivity, and social justice, objective and democratic outlook, sense of quality, and scientific attitude are of extreme importance. The distance learning system in higher education also will generally aim at these objectives; however, the focus may vary to some extent from the formal system according to the varied needs of the target population.

## Learner Characteristics of Distance Education

Learners at higher education level are mature enough in case of language comprehension and mental development. They are also expected to be self-motivated; this is especially true in the case of clientele of distance education. These qualities of the target population enables the clientele to carry out instruction through self-learning ways as well as through interactional processes. The clientele of distance education, although may have such common attributes, would vary considerably in terms of their educational needs, and socio-economic conditions, and background qualifications.

The varied aims of higher education and the characteristics and needs of learners who enter the system would be the main considerations while organising instructional system in the Open University.

TABLE 1

### Classification of Various Alternative Media Available for Distance Learning

| *Media Category* | *Media Items* | *Further Specifications* | *Potential and Merits* | *Limitations/Demerits* |
|---|---|---|---|---|
| A. Printed Material | 1. Self-learning material | Linear PLM, Branching PLM, Deviated PLM, Modules, etc. | Providing basic understanding, self-instructional | Mostly verbal, human interaction missing |
| | 2. Assignment and workbook | Field work, Practical work, Written Work, etc. | Development of skills, interest, application ability, etc. | |
| | 3. Supplementary Reference material | Library books, Magazines, Enrichment material, Newspapers, etc. | Additional information | |
| B. Audio Material | 1. Radio | Educational broadcasts and general programmes | Providing basic information, relatively cheap medium, great accessibility | Verbal and hence cannot attract for long |
| | 2. A.T.R. | Recorded lectures, radio progammes, discussions, etc. | Providing basic information, repeatable | Limited accessibility |
| | 3. Telephone | For interactions | Comes quite handy in clarifying things | Relatively expensive and inaccessible |
| C. Video Material | 1. Telecast | Educational telecast and general programmes | Great accessibility, better impact due to visual attribute | Relatively costlier, lack human interaction |

| | | | | |
|---|---|---|---|---|
| | 2. C.C.T.V. | Recorded and live programmes | Manipulation possible | Limited accessibility |
| | 3. V.T.R. | Stored lectures, interactive programme, life situations, etc. | For later use | Limited accessibility |
| | 4. Other visual gadgets and materials | Projectors, graphic material, charts, pictures, etc. | More accessibility | |
| D. Computer | 1. C.A.I. | Systems such as PLATO | Basic knowledge, understanding and applications to some extent, self-instruction, interaction to some extent | Relatively expensive higher cognitive abilities and affect attributes not taken care of |
| | 2. C.M.I. | Managerial purposes through computer network | More effective and efficient management of instruction | Relatively expensive |
| E. Interaction Session | Discussion, Seminar, Lecture, etc. | Human interaction to varied extents | Development of higher cognitive abilities and affect attributes as well as basic understanding of subject matter | Has to be supported by media such as printed material audio and video presentations |

## Alternative Media Available

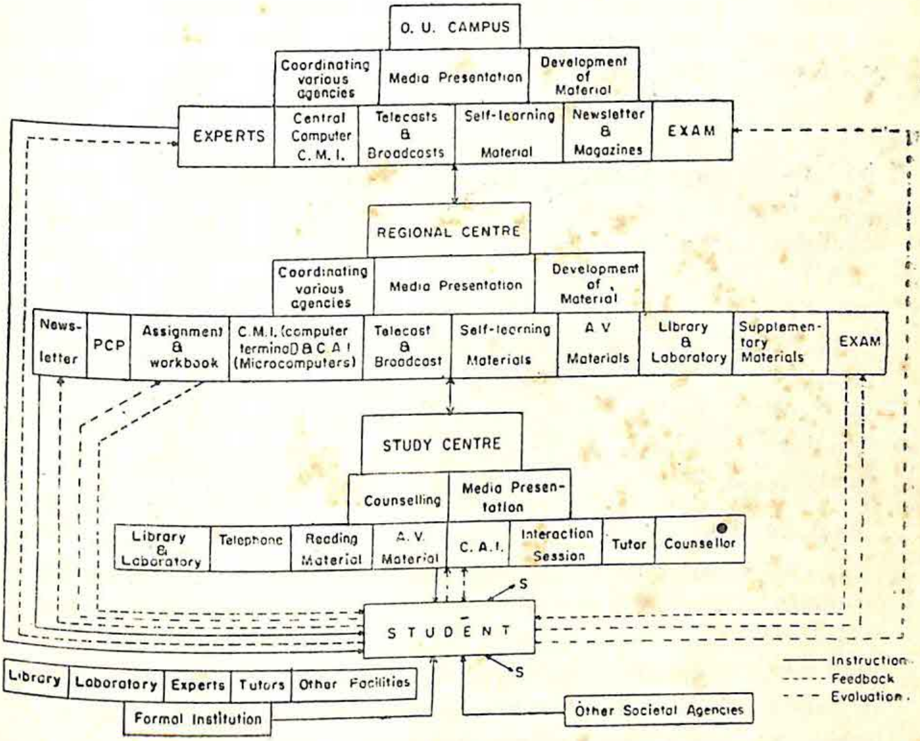
This section attempts to provide the educational potential, advantages and limitations of various media specially in the context of higher education through distance learning in the Indian conditions. An understanding of these aspects of each medium is important in order to arrive at effective and feasible distance learning systems. A variety of media has been presented here mainly with the purpose of highlighting their place in distance learning. This becomes necessary especially due to the over-emphasis being placed on hard technologies such as computer and television; while these media are to be utilized wherever necessary other media cannot be completely ignored. Table 1 (given on pages 104-05) presents a classification of various media available for distance learning system.

## Proposed Design of Instruction

Management of instruction under the open university system would mainly involve three agencies. The Central Open University Campus, the Regional Centres and the Study Centres. Apart from these the institutions under the formal system of higher education is also expected to provide its infrastructure and human resources, wherever needed. Facilities under other societal agencies such as museums, libraries etc., should also be utilised for distance learning. Figure 1 (given on next page 107) provides a diagrammatic representation of the proposed design of instruction in the Open University.

## Open Unversity Campus

There are three major functions expected of the open university campus. These are the production and development of instructional materials, instructional presentation through certain media and coordinating various agencies involved in the open university system. The campus is expected to telecast educational programmes through a separate channel for various courses for countrywide utilization. Self learning modular material for certain courses may be sent to the students by post from the campus. The open university can publish a magazine or/and newsletter for the use of the clientele. There could be a nation-wide computer network with the central computer at the open university campus with connections to regional centres and study centres. Terminal



Figure—1

PROPOSED DESIGN OF INSTRUCTION IN THE OPEN UNIVERSITY examinations may be conducted by the open university in different Regional Centres.

### Regional Centres

The regional centres are expected to be established at state capitals. These centres will develop instructional material mostly in regional languages, provide instructional experiences and coordinate various agencies at the State level. They are expected to be well equipped with library, laboratory and various audio-visual materials. Regional telecasts and broadcasts are done with the initiative of the regional centres. These centres not only will have the computer terminals of the central computer but will also be equipped with microcomputer for Computer Assisted Instruction (CAI). They can have permanent teaching staff and also experts may be invited from institutions of formal system of higher education, mainly for the Personal Contact Programme which these centres would be organising once or twice a year. The regional centres may also send written material to the students of that State. Sending assignments and providing feedback after correction would be the responsibility manly of the regional centres.

### Study Centres

The study centres are expected to be quite accessible to the students. They are expected to visit the nearest study centre for clarifying issues with the tutor, making use of the reading and audio-visual material, and also to learn through the computer assisted instruction. The tutors attached to the study centres may be on honorary arrangement from the nearby colleges or universities. These centres would also provide opportunities for the students of a particular area to interact with each other. They may clarify certain issues through telephone too. There could be a person, always available at the study centre to deal with students' questions and doubts.

### Institutions From Formal System

Institutions such as colleges and university centres from the formal system would provide their physical as well as human resources for the benefit of the students of the open university. They in turn may make use of instructional material developed by the open university. For this purpose an arrangement at the national level will have to be established with the help of the UGC.

## Other Societal Agencies

Several educational and non-educational agencies of the society such as industries, research institutions, national and regional research laboratories, museums, libraries may be brought into the open university system. Coordination at central, regional as well as local levels may have to be established for this purpose.

## Curriculum Development and Evaluation

In the context of the federal nature of India, and the present position of education being in the concurrent list, it may be required to have a definite stand regarding the roles of the IGNOU, the State open universities and the regional centres with regard to curriculum development. While it is desirable to have a central control regarding the nature, structure and content of the curriculum the regional centres and State open universities should be provided with the freedom to have various courses separately, for the concerned States, based on the local needs. This would mean that the decision making regarding the curriculum development and organizations would rest to a great extent at the regional levels. However, it is emphasized that the central open university campus has a significant role to play regarding curriculum development and maintenance of standards of instruction. The central campus should have in the long run a full-fledged team with all necessary equipment for materials development which is quite a specialised job, especially when various new technologies are used. As a suitable and effective integration of these media is also a necessity for evolving an effective system, a team of specialists in different content areas and media working at preferably one place is desirable. Getting material developed by different people on honorary basis, from various institutions may be initially required but this brings in its lot discontinuity and lack of sequencing among the various media used in the system. Material developed once should go through necessary modification and refinement through its use over a period of time.

As far the evaluation of students is concerned the regional centres and the study centres would take the main responsibility of formative evaluation and feed-back through tests, assignments, workbooks, etc. The summative evaluation in the form of terminal examinations can be conducted by either the regional centres or the central open university campus depending on the geographical distribution of students offering a particular course.

## Conclusion

Several of the instructional media presented in Table 1 would provide learning experiences to the students through mainly the central open university campus, regional centres and study centres. Establishing an effective integration among various media becomes one of the significant aims to be fulfilled. Using various media in isolated manner will not make the instruction effective. It would be required to assess the potential of each medium and the suitability of its mode of presentation and integrate them in such a way that they support each other contributing towards the desired objectives. In this integration facilities outside the open university infrastructure may also have to be suitably tapped and deliberately brought into the open university system. An exchange of resources between the open university system and institutions of formal education not only improves the effectiveness of both but also make their functioning more feasible. Duplication of resources by the Open University without looking into the existing facilities in various parts of the country should be avoided. Academic and administrative coordination among the IGNOU, UGC and AIU would go a long way in establishing such an integration. The present position of education being in the concurrent list would help constitutionally the integration envisaged here.

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# 16

# Course Development in Distance Education

N. JOSE CHANDER*

Course development in distance equcation takes a different procedure from that in the conventional system, for courses tend to be different in nature in the two systems. In the conventional system a course is teacher-centred and is instructed through a single medium, that is, the teacher. In distance education it is student-centred and the instruction is carried through multiple media. Several media are so integrated into the system that the course can never be complete without their joint operation or application. Course development therefore becomes a process of coordinating the roles of various media to convey information to the students. Broadly, three approaches have been observed; single-member approach; course-team approach; and hierarchical approach. The objective of this paper is to discuss the three approaches and weigh their advantages.

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## What is a course ?

At the outset it is essential to clarify that we mean by a course. From a broad perspective, a course can be considered a process of intellectual interaction of students, tutors and course teams based on the course materials produced at the university. Mary Thorpe says: "I believe we should begin from the assumption that course materials are not the course; rather that the course is an annual process of interaction between students, the materials and the tutors and that, in this sense, tutors and students 'produce' courses as well as course teams." Taking a narrower viewpoint, a course consists of the study materials such as printed texts, audio-video tapes and other materials which enable the student to equip himself for the final evaluation. I prefer to take the narrower view for analysing the practices in course designing and development. Further, in India we often use the term course for the overall programme of study consisting of several 'papers' taught or studied during the fixed number of years. A 'course' in the British or American sense is equivalent to a 'paper' in Indian universities, and one has to take several courses to qualify oneself for the final award. A course in the Indian context is a 'programme' in the Western sense. In this paper the term course is used in the Western sense, i.e. equivalent to a paper in the Indian universities, as it is more convenient for analysis.

Course development implies four stages :

1. Course design and strategy,
2. Materials development,
3. Course presentation, and
4. Developmental testing.

A course writer entrusted with the writing of a full course or a part of a course is responsible for the development of the course through all the above stages. The course writer may be a single person or a group of persons. In the case of a team, the team is collectively responsible for the work.

## Single-member approach

In the Indian universities course outlines are designed by Boards of Studies and Faculties, and finally approved by Academic Councils. Course design therefore is a collective work. Distance teaching departments of Indian universities, which generally teach the same courses as the conventional departments do, have to develop course materials within the framework prescribed for the latter. Distance teaching departments have no freedom to move out of the limits set by the tradition-bound Boards of Studies. They prepare a break-down of the outlines into several units before strating the work of course preparation. This break-down is done by the institutes, teachers in consultation with other experts who are generally teachers in the conventional system. Each institute is supposed to have subject committees for each subject or discipline and these committees advise the institute with regard to course development. After making the break-down, units are assigned to several individual course writers. Course writers are either full-time teachers of the institute or teachers working in other institutions and serving the institute on a part-time basis. They are generally given some guidelines regarding the scope of the unit, the number of pages or lines, the deadline for submitting the work to the institute, etc. Within these parameters the course writer is free to write the materials. The unit thus completed is edited by an expert, either a full-time senior staff of the institute or an outsider employed on part-time basis. So in this case materials development and course presentation are the functions of the course writer and course editor. There are in some institutes a provision for further scrutiny or review of the materials at a later stage, and the comments made may be incorporated when the units are revised.

In the picture given above, course materials are the responsibility of the course writer, although editing is also done. But in many cases owing to exigencies of time or money the editing work may be dispensed with, and the course materials go to print straight from the writer. I have not heard of any developmental testing being done in the Indian universities as a part of the routine procedure for developing course materials. Some enthusiastic teachers try to get the feedback from students in an informal way and make improvements in their courses at the revision stage. However, this cannot be done in the case of part-time course writers who are not attached to the institute by permanent ties.

These course writers have no collective role in the design and production of audio-visual software which may be made part of the course. Course writers are again assigned individual role in writing a radio talk or talk for audio taping. There is no occasion for group discussion, mutual criticism or comment. This leads to a sort of isolation of the course writers. As a result a single course prepared by several members in their individual capacity is not collective product. Parts of a course may bear difference in emphasis, style or even content. A course may thus be good in parts.

It is possible for a single person to be held responsible for a course from design to production. In such cases there is no editor in addition to the course writer who is solely responsible for the course. Jon Stanford writes about his experience in the making of a course exclusively by himself. He was responsible for running the course fully, including the tutorial services. He asserts that "one academic can present an entire course and can prepare, present and administer one distance education course although the number of students involved is relatively small." One advantage of the system is that it places the responsibility and accountability of the course on a clear person. He can take the feedback from the students and make modifications to improve of the course. Students also find a specific person to approach rather than a group in which responsibility is diffused. This fosters the client relationship between the teacher and the student, emphasising the fundamental professional responsibility of teachers. As regards the academic, the course is entirely the product of his labour and he need not share its prestige with anybody else. But when the same teacher is responsible for administering the course completely, he can do it only for small group effectively.

Here the sense of isolation that the course writer feels is worse, for he is responsible for the whole course. However, it must be noted that a substantial part of academic work is isolated as one has to think and write effectively in quiet solitude. Practically the differences between the person who is responsible for the whole course and the person responsible for part of the course are limited. In the latter case there may or may not be an editor to edit the materials. Apart from this they work in similar circumstances.

## Course-team approach

Instead of a single person doing all work regarding the development of course materials, it is possible to have them done by a group or team. A course team is a group of persons (both academics and non-academics) engaged in the task of initiating, producing and maintaining a course. It cannot be an exclusively academic body, because a course which involves radio, TV, cassettes, etc. has to be guided by expertise drawn from the fields. There is no statutory provision regarding the constitution of a course team. A course team of the British Open University (OU) consists of a few academics, an editor, an expert from the BBC and any others as required. The team has a chairman who is generally the person who has initiated the course. In the British Open University any academic can initiate a course whether or not he is a lecturer, reader or professor, and be the chairman. Someone may think there can be a course on Democracy, or on Politics and Technology. Some of those who are interested in the idea may join together to form the academic part of the course team.

As a course team is a heterogeneous body it may be interesting to analyse what each team member or category of members has to do. The chairman is responsible for pushing the plan through the concerned bodies and has to be in liaison with the administration. He runs course team meeting and allocates tasks. He is responsible for completing the work in time and keeping the expenditure within prescribed limits, although there are administrative sections that keep watch of the progress and keep themselves in touch with him. The academic members take the most active role in the course team work by writing texts, discussing them, rewriting them, generating new ideas and approaches, editing and proof reading as well, to some extent. There are sometimes non OU academics who are associated as consultants; they also may write parts of the texts. In every course team there is an educational technologist whose main function is to advise the team on assessment, testing, feedback, etc. He is supposed to represent the student community and so keep the authors' feet on the ground. They are generally members of the Institute of Educational Teachnology (IET) which is a major department of the OU. But there are instances of the faculty of the IET becoming text writers for course teams. The Graphic Design Department has to be represented where there is need for graphs, charts, pictures etc. The OU has a cadre of course team managers who help the chairmen in their routine administrative functions, and so managers are also present when course teams meet. Although the chairman or team members do some sort of editing while scrutinising the drafts, there is a professional cadre of editors in the OU who are associated with course team work. An editor is invariably present at the meetings. The editor is responsible for getting the final product to and from the printer. *It is said* that he is often the only person who gets a grasp of the whole course. The audio-visual ingredient of the course is the responsibility of the BBC. As all the courses have a small or big part of the audio-visuals, a BBC representative participates in course design and production. These days staff tutors also are associated with course teams as they can represent students' interests, they being close to the students. Sometimes there are critical readers—both OU and non-OU—specially for the purpose of checking drafts, accuracy of facts, timing, etc.

Every academic in the British Open University is expected to participate in course making and often serves several course teams at the same time. Every faculty in the OU has a sort of quota or allotment of courses to be produced. If the quota is not already filled, there is scope for initiating a new course. Further every course has a fixed life period, say five or seven years, as it is agreed upon when the course is being framed. So every course is expected to be revised or replaced after the date. Work has to start sufficiently early to replace the course after its period of validity.

Perhaps the most notable advantage of the course team method is the facility for constructive criticism of the drafts. This is strengthened by the willingness on the part of the team members to take the criticism in right spirit and modify the draft in accordance with consensus. John H. Mason, a member of the Mathematics Faculty of the British Open University says: "The heart of any cooperative venture of course production is the giving and receiving of specific comments." Making comments in a superficial way may be an easy job, but constructive suggestions are products of in-depth study.

When a course is first conceived it is in a state of flux. There is a lot of confused thinking and prolonged discussion possible until ideas are concretised. Mason gives an illustration: "...in our earliest teams, a first draft of a course consisted of chapter titles, section headings and the odd introduction. People argued over these at length. Then some one wrote a second draft putting in more detail. Screams from other team members indicated that they had understood something completely different." On the other end is a completely detailed draft which may look too rigid to be accepted in general. Members may even waste time discussing minor details to the neglect of the overall frame. A detailed draft seems to carry an inherent resistance to major modifications and has therefore a "confining effect" on the readers who have either to reject it or approve of it in toto. No one perhaps will be willing to put in effort to prepare a detailed draft in an uncertain situation. So the middle ground is to be struck, and this requires patience and perseverance on the part of authors as well as readers. There are various items to be discussed—content, style, format, presentation etc.—and team members should be prepared to wait for the proper occasion or stage to attack.

I have had occasion to witness the deliberations of the OU course teams on "Democracy" and "Global Politics". The first was in its early stage and the second nearing the final stage. I could find both sessions very businesslike. Christopher Pollit with whom I had had discussion about the operational mechanics of the course team opined that his course team worked smoothly as all the members were cooperative and sincere to the cause. But this is not true of all teams as some teams have conflicting interests. Personal spite also occasionally comes to the fore in course team meetings. So the selection of team members is of utmost importance.

Responsibilities are shared in a course team and there is great potential for cooperative effort. But the constraints of time, finance and human indolence are likely to distort the process of collaboration and bring forth a not-so perfect output. With a view to keeping the production schedule, the work is sometimes rushed through. As a result drafts are read hastily, comments insufficient, redrafting or editing poorly done. People are not all hardworking and not all are born to serve the course team cause. Course production in the British OU takes three to four years, and sometimes even more. The course production schedule of the OU envisages that work should start four years ahead of the year of implementation. The everage output per individual member of the Social Science Faculty of the OU in recent times has been one unit and a half per year. The average cost of producing a Social Science course is 6,000 pounds. If salary and other establishment charges are added it comes to 20,000 pounds. Expenditure on audio-visuals in the British OU are cut down today and course team size reduced owing to shortage of funds.

The Athabasca University—the first Open University to be started in Canada—initially organised its course teams on the British model, but later made them smaller. The Athabasca team consists of one academic or content consultant, an instructional developer or technologist, an editor, a visual designer or media consultant. From the point of view of academic quality. it is better to have several academics to put their heads together, But financial and time constraints outweigh considerations of content in Athabasca University. It is also pointed out that in an academic-heavy course team there is a tendency to ignore instructional aspects, and consequently the non-academic roles are often ignored. In the Athabasca team the technologist is an active participant, and no sector can override another.

## Hierarchical approach

It is possible to develop a course by a group organised on a different pattern as is done in the Fernuniversitat of West Germany. In Fernuniversitat the head of the discipline concerned has the power and responsibility to initiate the course and choose the partners. He allots course writing to his colleagues in the team, supervises the work and ensures quality. Whereas in the British course team the members are equals (the chairman being the first among equals) in the West German system the organisation is hierarchical. The members are the sheep and the head of the discipline the shepherd. Some of the faculty with whom I had had discussion at the Fernuniversitat affirmed that it was in the German traditon to give the final say to the head of the discipline. This approach in a way combines certain aspects of the first and the second approaches. Here is a course team led by the head of the discipline; and the team members prepare the materials individually under his supervision. However the German procedure does not assure freedom of thought and discussion as in the OU team.

## Make your choice

From a theoretical perspective, the course team approach ensures most academic quality. It provides for deliberation, redrafting and comments, and focuses the co-operative effort of various interests and sections into the making of the course. It seeks to integrate the various media into the course under the overall supervision of the course team. However this is expensive owing to the large number of persons and stages of deliberation involved. The Athabasca experiment is an attempt to cut down expenditure but the academic in the team becomes a lone voice. He has nobody to consult and share the responsibility with, as regards academic quality. It appears that where there is a strong contingent of permanent staff many of them can be involved in the work and external elements reduced. If the permanent staff are small, it is less expensive to associate externals than to increase the staff.

In the method followed by Indian universities the course design is a collective effort; but in the course design is meant for the conventional system. Distance teaching departments are compelled to prepare study materials within this framework. So they lack the freedom to mould materials in a fashion that suits them. This is particularly felt when audio-visuals are to be incorporated into the materials. In the British OU designing of courses and formulation of strategy go together. In the Indian practice they are separated and so problems arise when strategy is to be fit into the prefabricated design. The open universities emerging in India may be able to overcome the problems of bifurcation as they are responsible for both designing and administration of their courses. However it is possible to introduce an element of cooperation into the Indian system without introducing the course team. If the individual course writers submit their drafts for scrutiny by their colleagues writing for the same course and accept the suggestions for improvement, much of the benefits of the course team methods can be fruitfully absorbed. It is possible that personal spite and envy may divert the operations and cause a lot of waste. Much depends on the goodwill and cooperation on the part of the course writers.

No system is above criticism particularly as regards the duration taken for writing course materials. The human factor operates everywhere. Whether a single-member team or multi-member team, course writers need occasional goading as well as patting. It is always advisable to do a major part of course production before students are admitted to the course. In the Indian situation there are cases wherein course production starts after admissions are notified. In such cases course materials will have to be rushed through, and some times not even completed.

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# 17

# Counselling in Distance Education

GAUTAM BANERJEE*

The very notion of counselling itself is barely sixty years old having sprung from the vocational counselling roots of persons. Now it has widened its circle and embraces activities such as information-giving, advice-giving, psychotherapy and so on.

Counselling can be formal and informal. It can be focussed on personal development, almost in vacuum, or seen in a developmental social milieu.

Rogers defines counselling as "A series of direct contacts with the individual which aims to offer him assistance in changing his attitudes and behaviour." Shostrom and Brammer define it as "A self adjustive process, which helps the client become more self directive and self responsible."

Counselling in its modern connotation means more than advice giving. The counsellor helps the counsellee to think through his own solutions, he does not provide him with ready-made solutions. Counselling does not confine itself to the solution of immediate problems only. The function of counselling is to help the individual develop skills so that he may take wiser decisions in future as well as steer out of immediate difficulty.

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Counselling relationship according to Pepinsky and Pepinsky refers to the interaction which (a) occurs between two individuals called "Counsellor" and "Client", (b) takes place within a professional setting, and (c) is initiated and maintained as a means of facilitating changes in the behaviour of the client.

Counselling has long been regarded as an important, indispensable component of traditional institutionalised graduate/undergraduate programmes in other countries. As Maslow says "Counselling is a systematic exploration of self and/or environment by a client with the aid of a counsellor to clarify self understanding and/or environmental alternatives so that behaviour modification or decisions are made on the basis of greater cognitive and affective understanding."

Recently, a number of interesting unorthodox developments have made us realize that counselling and its "information giving" function is a vital and integral component of a distance education system. Learning consultant network has been established by the Regional Learning Service of Central New York in 1973 under the Syracuse University. This scheme provides an independent educational counselling service to assist adult learners into and through study programmes offered by academic and other learning institutions. Viekers says, the scheme attempts to create a "supportive association" for non-traditional learner who, without the benefit of substantial peer support and encouragement might find their educational goals unattainable. Beamish suggests that the consultant serves the student as a "confidential counsellor professional advisor, well-informed resource and loyal advocate and supporter." Generally the consultant operates to increase the student's sense of self-reliance and to promote his capability of assuming major responsibility for his own educational welfare.

Education is no more a privilege of the elite. When education was restricted to the elite the school and college populations were homogeneous in nature and providing suitable education was a comparatively easy job. With education thrown open to everyone, the student population is more heterogeneous and so requires a more diversified curriculum and facilities.

Distance Education system is open to all who may satisfy the minimum standards set for admissions. Under these circumstances the students are coming from a varied social background. A significantly large number of students are the first generation learners. In their families they have no one with experience of college education to guide them in the choice of a career. Counselling help can be meaningful in this development.

Counselling involves problem solving and learning, it can be considered as special teaching which involves both intellectual and emotional aspects of individual's personality. Counselling thus becomes a legitimate and integral part of education.

However it aims at attitude change and does not concern itself with action. Counselling functions at the emotional level and does not confine itself to the intellectual learning. It generally deals with the problems related to (i) Vocational goals and educational aspirations, (ii) Administrative and procedural complexities and ambiguities, (iii) Academic motivation or progress, and (iv) Emotional adjustment and personal development.

Though it seems to be an easy job, practically counselling is a very critical activity which minimizes the adverse effect of learning situations. It helps new students to adjust to their learning environment and provides a climate which encourages students to seek help and develops in them sufficient insight, so that they may solve their own problems. Failure to provide proper guidance and counselling facilities, will inevitably result in haphazard course selection, over-estimation of ability, discontinuity in knowledge accumulation and unfamiliarity with requirements which may cause high anxiety and increase the probability of discontinuing or dropping out from a course of study.

Moreover, the students, feelings of deprivation because of limited opportunities of face-to-face contact may arise from purely psychological needs and may contain nothing peculiar to the educational exchange. Therefore, we need counselling to eliminate these problems.

A counsellor helps the students to cope with problems. So counselling must promote purposeful rapport between the student and the counsellor. A counsellor should be able to identify and respond positively to the individual student's problems and his requests for advice. Thus the counsellor needs to demonstrate empathy in dealing with students' enquiries, provide assistance and encouragement, wherever necessary.

The counselling process, should help the student to reach a decision, but it must place the ultimate responsibility for decision-making with the student. Tyler says "Counselling is mainly neither a matter of solving problems nor of making decisions; rather it is a developmental experience in which a tempts to solve problems and arrive at decisions are the events out of which through reflection and the process of 'working through' personal growth takes place." In other words, the counsellor in his relations with the student should try to work himself out of, rather than into a job, by promoting and encouraging the student self-help. The student will become increasingly more confident about seeking and finding his own answers and solutions to problems and less dependent on the counsellor.

In seeking to establish a meaningful counselling relationship with distant students it is first necessary to find a suitable means of communication. The means employed will be determined by such variables as the location of students and density of numbers, the distribution and accessibility of counselling points, the number of counsellors and range of counselling skills available and the level of educational teachnology which the university or college invokes to support its off-campus counselling programme. But correlation of the range of counselling levels and types of media used in counselling may be effected through : 1. correspondence counselling; 2. Audio-cassette counselling; 3. Telephone counselling; 4. Face-to-face counselling.

Counselling through correspondence is the only popular made in India. In fact we don't have other options to do the same. Of course, recently the Government has acknowledged the importance of counselling for correspondence learners and attention is being paid to develop other media like TV and Radio broadcasting. But yet we have a long way to go.

Correspondence counselling has got its own limitations. It is strictly a "one-way" process. Moreover, the postal delays cause a great deal of anxiety in the minds of the students who are badly in need of counselling at the time of answering their assignments. Secondly, it is observed that external learners derive greater satisfaction from personal conversation and face-to-face counselling. This is largely psychological. Innovations in audiotape and telecommunications have been integrated into external delivery systems, making it possible for more personalised counselling to be accessible to all students.

Needless to deny the fact that India is a poor country with all its limited resources. But the scientific and technological development of India is quite respectable. Therefore, we would expect that though this medium, 'Audio-cassette', is now not fully possible in the Indian context, soon we will be able to make use of it.

Audiotape cassette replay system is an inexpensive medium for conveying information and advice to students. The advantages of this medium are : (i) it seems to be more personalized than written comments; (ii) Students regarded the information as being more informative and complete than that obtained via correspondence; and (iii) Students' level of academic achievement significantly improved as a result of the use of the audiotape system.

Unlike audio-cassette counselling, Telephone counselling is totally absent in India. It is said that "telephone counselling is the most effective tool for distance teaching and learning—Capable of individualizing, humanizing, personalizing and optimizing instruction—." As a result it is capable of generating highly interactive counselling relationships. Telephone conversations have the advantage over cassette tapes is that they provide spontaneous two-way communication and discussion. The additional advantage of telecounselling is its flexibility. Wherever there is a telephone, it is possible to obtain information without travelling, thereby saving time, effort and money.

There are basically three ways of providing face to face counselling for distant students.

(i) A professional counselling service can be established and located as a centralized function of the learning institution itself;

(ii) Another means by which face to face counselling can be implemented in distance education schemes is through an organizational structure which may have decentralized agencies and resource centres and regional or provincial locations; and

(iii) Another method of conducting face-to-face counselling in distance education programme is by means of itinerant counsellors or educational guidance officers who travel to different regions to help local students sort out their study problems and help them overcome their anxieties.

Besides the abovementioned three ways of providing face-to-face counselling, there is the personal contact programme. As per recommendation of the various committees and guidelines laid down by the UGC most of the correspondence courses institutes organize personal contact programmes for their students in order to supplement instruction imparted through the printed lessons. These programmes provide a good opportunity to the students to come in close personal contact with their teachers.

Apart from the intensive classroom teaching imparted at these programmes, the students get a chance to sort out their individual difficulties and problems. The duration of personal contact provided to the student is generally 15—30 days. The percentage of students who attend these programmes varies from 30 to 50.

The common reason due to which such a large percentage of students are unable to attend these programmes are (i) difficulty in getting rail/bus travel concessions, (ii) difficulty in getting leave from the employer, (iii) family commitments or hard circumstances, (iv) financial hardships, and (v) non-availability of board and lodging facilities.

However, it is learnt that the reaction of the students who attend the personal contact programmes are generally very favourable and they go back with added confidence and enthusiasm to pursue their studies.

(i) Counselling services are still an underrated activity where distant learners do not represent the major or sole interest of educational institutions.

(ii) Majority of distant students are poor and economically not well to do. Very few freeships and financial inducements are available to them.

(iii) Lack of proper mode/media of counselling.

(iv) India is a large country with its mutilingual population. Moreover, cultural background, social status and economic factors differ from person to person and from one region to another. Therefore, only one mode of counselling may not be useful for everybody.

Here I am taking 'study skills' and I will try to show how this can be done effectively through the process of counselling.

Some useful techniques of study and some suggestions for the distant students.

1. Time and place for Study?
   A. When to study? B. Where to study?
2. How to read and write better?
   A. SQ3R B. How to make useful notes?
3. How to read faster?
4. How to learn from Television and Radio broadcasting?
5. How to deal with examination?

A. For effective preparation
B. 'Technique to be used in the Examination Hall'.

**1. Time and place for study :**

A. When to study :

(i) Make out a study time table, (ii) Do some study nearly everyday. (iii) Tackle the toughest work at times when you are at your best. (iv) Leave enough free times for recreation. (v) Make a note of what you hope to achieve in each study session. (vi) Begin your work at the very start of each study session.

Firstly, review what you did in your last session on the topic. Secondly, force yourself to keep concentration. Thirdly, take a total of five to ten minutes break within each hour of study. Fourthly, ending up with reviewing what you have achieved.

B. Where to study :

(i) Find a place as free from distraction as possible. (ii) Try to study always in the same place. (iii) The only equipment you need apart from your books & distance Education materials is a table, a chair and a good light. (iv) Let it be known that during study sessions you cannot be interrupted. (v) Let plenty of fresh air in.

**2. How to read and write better :**

A. One very useful approach to studying an article is known as SQ3R (survey, question, Read, Recall, Review).

SERVEY the material first to get a general view of what you will then study in detail, scan the table of contents, the introduction, headings, emphasized sections, summaries exercises and final paragraph.

Think up QUESTIONS that will give purpose to your study and allow you to read with anticipation.

Read the material (preferably three times faster rather than once slow).

Stop after each section of material to RECALL what you have read (and make notes of the main ideas and important details).

REVIEW what you have (and test the accuracy of your notes) by running quickly through the four previous steps again.

During the READ stage of SQ3R :

(i) Look from the work for the author's idea—the plan upon which he constructed the material. (ii) Pick out the main idea in each paragraph often containted in the first or last sentence.

(iii) Look for important details, e.g. proofs, examples, supports for main idea. (iv) Don't ignore the diagrammes and illustrations—they may make the things clear where the text does not. (v) Be sceptical. Don't take author's words as gospel truth. (iv) Think of your own examples—look for the application in our own experience. (vii) Skip paragraphs and whole sections if you find them irrelevant.

B. How to make useful notes :

(i) It helps to make notes because it keeps you active and concentrating, and provide a written record for revision. (ii) Store your notes in a loose-leaf binder. This gives maximum flexibility to rewrite the sections of one's notes. (iii) Some suggestions for writing the notes :

(a) Contents should include author's/speaker's main ideas and important details.

(b) Logical structure of the author's argument.

(c) Any important references he maintains.

(iv) Make notes at the recall stage of SQ3R :

(a) Use your own wording.

(b) Make use of such standard abbreviations like, these :

e.g. for example;
i.e. that is;
c.f. compare, remember in the context;
N.B. Note well, important;
=equals, is the same as;
#does not equal;
<less than;
>greater than;
∴therefore; and
∵because.

**3. How to read faster :**

(i) Make sure you don't mouth the words or say them aloud as you read.

(ii) Try to read in 'thought—units'.

(iii) Build up your vocabulary by ;

(a) Reading widely.

(b) Using a dictionary whenever new words crop up in your reading.

(c) Making glossaries of words commonly use in your subject.

(iv) Practice reading faster (force yourself).

(v) Calculate your speed of reading in words per minute as follows :—

$$\frac{\text{Length in words}}{\text{Time in seconds}} \times 60 = \text{words per minute.}$$

**4. How to learn from T.V. and Radio broadcasting :**

(i) Pay close attention to what is said (or shown).

(ii) Pick up the main line of agrument from the programme.

(iii) Make a few key notes.

(iv) Immediately after the broadcasting, with your notes in front of you, try to reconstruct the programme in your memory or in a "note" form.

(v) Discuss with other students (if possible) if you are not happy with the broadcast.

**5. How to deal with Examination :**

A. For effective preparation :

(i) Study systematically from the time you begin your course.

(ii) Begin revising at the end of the first week.

(iii) Criticise and rewrite your old notes working for all possible memory links between subject and topic.

(iv) If possible get together with three or four other students and have a discussion.

(v) Check through previous examination papers, if available.

(a) Write outline plans for answers.

(b) Write complete 'model' answers.

(c) Give yourself 'model' examinations.

(vi) On the day before exams :

(a) Don't try to learn new things.

(b) Revise normally or relax completely.

(c) Gather examination equipment.

(d) Go to bed early.

B. Techniques in the examination Hall :

(i) Take time to read right through the examination paper and decide exactly what you have to do and which questions you prefer.

(ii) Budget your time by allowing so much per questions and ten minutes at the end for checking.

(iii) Plan your answers by jotting down the main ideas and important details in outline form.

(iv) Answer your best question first, stick to your time budget.

(v) Write simple, direct and to the point. Watch your grammar and spelling, write legibly.

(vi) When you have finished writing, check through all your answers for more necessary corrections.

# 18

# Educational Technology in Distance Education

VASANT D. BHAT*

## Current Educational Scene

Education of its masses is one of the biggest challenges facing a developing but populous country like India. Many a fruits of development cannot be reaped if the people of India remain illiterate and uneducated. On the one hand there is an increase in the literacy rate from 16.67% in 1951 to 36.28% in 1981 and on the other hand the number of illiterates have increased four fold from 6 crores in 1951 to 24.8 crores in 1981. The provision, through article 45 of the Constitution for universal primary education and inclusion of adult education in the productive age of 15—35 years as part of minimum needs programme in the sixth plan stand out as State's concern for eradication of illiteracy. These remain only as goals largely because of increase in number of people relapsing into illiteracy due to increasing number of drop-outs, push-outs, lack of follow-up literacy programmes and above all population explosion. It is especially frightening to know from

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*National Council of Educational Research and Training, New Delhi, World Bank estimates that India would have the largest concentration of illiterate population in the world, 500 million in the age group of 15—19, by 2000 A.D. To avert such an event we have an educational enterprise consisting of public, quasi-public and private institutions catering to different levels of education. Roughly, there are over 5 lakh primary level and 1.5 lakh secondary level schools, over 5 thousand colleges and around 160 universities/ institutions of higher learning under the formal system of education. When compared to the corresponding figures in the years just after independence, the expansion has been quite substantial. However, it has been largely realised that the educational needs of ever increasing population cannot be met by mere expansion of conventional and highly structured formal system of education. A large portion of rural/tribal population is untouched by higher education. Hence, nonformal and distance education has become the crux of national educational policy. The traditional view of education as only that which goes on within the four walls of a classroom has undergone a substantial change. The nonformal and distance education systems have broadened the scope of education by freeing it from the clutches of the four walls of a classroom Now we have 'new venues' where educational transactions could go on. Instead of waiting, which seems to be never ending, for learners from far and near to come to the centres of learning, the distance education system makes it possible for education to reach out to the learner wherever he be.

## Distance Education Systems

Distance education, for the purpose of higher education, as provided through the open university could be of two kinds. One which is national, centralised, high-resourced and autonomous kind as visualised in the Indira Gandhi National Open University (IGNOU). The other is a smaller, more modest but autonomous type such as the Andhra Pradesh Open University. As spelt out in the Programme of Action on the National Policy on Education, 1986 the national open university has additional responsibility of coordinating the distance learning system in the country and determining its standards. Apart from the open university system which is in the offing in India there exist two other kinds of distance education system within the traditional university set-up. Firstly, the campus based universities for many years have offered extension services for part-time off-campus students. The other is the distance education through correspondence courses, offered by as many as 35 universities. An important criterion that separates the open university courses from the part-time/correspondence courses is their traditionalism. In the latter institutions only those students who fulfil academic requirements are admitted while in the former, age is the only restriction. Even some of the courses offered by the open university are of a nontraditional type such as diploma in rural development. If it is not too ideal to achieve, the open university should in fact offer only job-oriented nontraditional courses to produce employable learners so that, the waste of scarce resources in producing a large number of unemployables with socially irrelevant education could be prevented. If achieved, this would provide a scope for turning our greatest handicap arising out of the large mass of unemployable into our greatest advantage. However, all the above types of distance education systems have a commonality in their objective to reach education to as many persons as possible in a cost-effective manner.

## Educational Technology in Distance Education

Considering the fact that India has its own communication satellite in space and a large network for radio and television broadcasts with enough manpower having potential to produce educational programmes, the distance mode of education is ideally suited for mass education. Making optimum use of the existing facilities a large number of people hitherto untouched by education can be brought into the fold of education and teaching-learning process therein can be revolutionised. The British Open University which has greately influenced the Indian distance education systems, brought in certain radical innovations when established in 1969. Its teaching system in particular was based on a combination of broadcasting and especially written printed texts. As Bates (1984) puts it, 'from its inception the Open University was technologically based'.

In this quest to reach education to the masses, distance education had to think of an appropriate delivery system other than the traditional face-to-face teaching. Mass media footed the bill quite admirably. Mass media gain relevance for distance education from their capacity to disseminate educational information to a great number of people. In a well designed instructional strategy, mass media can either be an indispensable component of learning environment or it can play a role which is to supplement learning. In certain special cases it has stood alone for instruction, though there can be apprehensions about its effectivity. Incidentally, the concept of 'effective teaching' may have to be redefined in the context of distance education because in its present usage the concept draws heavily from teaching situations involving face-to-face interaction. The relevance of mass media such as press, radio and television is to be viewed from their capacity to reach the scattered masses who are distant learners and from the fact that these learners are already being exposed to mass media information in one way or the other. Stressing the importance of mass media and their relevance in educational system a UNESCO commissioned International Committee on Education envisages in its report that 'one of the merits inherent in mass media is that they relieve teacher of exclusive concern with transmission of knowledge and theirby enable him to pay greater attention to his mission as educator.'

Developments in technology have greatly influenced the distance education systems. A wider range of media such as radio, television, audio and video cassettes i now becoming more and more accessible to a distant learner. Choice regarding the use of media for distance education has become more difficult to make. The modality of using texts as the core material and radio/television as support systems needs to be given serious rethinking. Questions such as whether some media are more effective than others? whetheir it is socially justifiable for distance teaching institutions to use media that are not universally accessible? whether it is better to deliver learning material through alternative media? are cropping up in the minds of planners and designers of distance learning courses. Educational technology, viewed as systems approach to education, provides a perspective to tackle these and many related questions concerning distance education. With increasing availability of diverse educational resources the teacher becomes not only the designer and planner of instructional system but also someone who can integrate these resources into total learning environment Given the speed of technological development and the emphasis laid on its use in education in the national policy on education there seems to be an increase in the interest shown by educationists in this area. Nevertheless, technology has not been sufficiently used in distance teaching. According to a survey, printed material and contact seminars occupy a major role in distance teaching schemes. Radio and television support is almost negligible, audio and video technology is yet to be introduced and more recent developments in computer, video-disc, word-processor and teletext technology are still distance education. It may not be difficult to think of the reasons behind their neglect. Generally, the academics and administrators are unaware of the potential of educational technology in distance education, are inexperienced in their use, and probably even frightened off by their imagined costs. Though it is very much desired, it is extremely difficult if not impossible to make a detailed presentation on the types of technology available for distance teaching in a write-up such as this. However, in the following paragraphs an attempt has been made to list some of these technologies with very brief statements on the advantages attributed to them.

**Radio**

Radio can be considered as a medium as it consists of transmission through broadcasting of audio signals to listeners. The number of listeners of a radio broadcast may range from those within the radius of a few kilometres in the case of FM transmission to several millions in the case of national broadcasting. Educational broadcasts is a part of the programmes of several AIR stations. Largely, the radio broadcasts are for listening at the time it is broadcast. However, with the availability of storing devices the message can also be stored by concerned persons/institutions. These two possibilities make it necessary that a decision is taken before broadcasting whether the material is for direct hearing or to be recorded for later use. Another related question is whether the message is to be broadcast once or more than once and with what interval. Radio and television broadcasts are of particular importance in distance teaching as alternatives to face-to-face contact which is almost missing in it. Researchers have found that the use of radio in correspondence education is accompanied by increases in the percentage of written assignments submitted by the students of the Delhi University correspondence courses as compared to their counterparts without radio lesson facilities. There could be various programme formats for education broadcasts. It could be a lecture or radio talk by experts, interview/discussion involving a team, sound recording of complete text or excerpts of historic interest, or radio-vision consisting of talk to be accompanied by diagrams/pictures/slides. The use of radio broadcasts in the open universities abroad, however, has been decreasing with a dramatic increase in the use of audio-cassettes which are mailed to the students alongwith the printed course material. This is largely due to the inconvenience in listening to a programme as and when it is broadcast.

### Television

T.V. broadcasting is an important component in the open universities in other countries. With the acquisition of its production technology and falling prices, home receiving sets of T.V. broadcast are available in large number of Indian households and the number is increasing day by day. The specific value of T.V. broadcast will vary according to the context in which it is used. But there is no doubt that it can provide distance learners with unique resource material. Demonstration of complex or expensive experiments, field visits, microscopic observations, advanced technical equipments, industrial processes, social and interpersonal interaction and interviews with outstanding persons in a field are just some of the experiences that can be offered to students in their own homes through broadcast television. Generally, the broadcast television programmes have their strength in encouraging interpretations by individual learner, stimulating thinking, providing an overview or synthesis, demonstrating continuous processes, raising awareness and developing skills of evaluation. At the same time they have their weakness in achieving mastery learning, giving feedback, presentation of complex ideas and probably even development of abstract thinking. The T.V. programmes are short lived, they cannot be reviewed, are presented at the same pace for all learners and do not provide scope for reflecting on an idea or thought during a programme unless one looses the thread of the programme itself. However, it would be too early to talk of its effectivity in certain terms since much needs to be explored in terms of its use in distance teaching.

### Audio-Cassette

This and the video cassettes are the media which would probably be crucial for the success of distance education. For students, study material presented on cassette offers considerable freedom. It can be used when it appears most relevant to the individual needs of students and at a time and place convenient to them. This is precisely the reason why it might be more appropriate for distance teaching. Moreover, the hardware viz., cassette-player provides the learner with a scope to stop, pause and replay the text according to the personal preferences of students. It has been argued in the past that cassettes provide students with a learning medium which shares many of the advantages inherent in a written text such as skimming, reviewing and control of pace while restoring the advantages of voice modulation.

### Video-Cassette

Video cassette is more recent and an evolving educational medium. Video-cassettes are like broadcast television in the sense that they combine moving pictures with sound. At the same time they are different in the sense that they can be viewed in ways which are independent of predetermined transmission time. Video-cassettes have the advantage over broadcasting of increased student control of the medium. Their more flexible control characteristics allow students to adjust the pace of the material to an individually appropriate level by replaying sections that move too quickly or by skimming forward over sections that are too slow. Even though at present a majority of the distance learners do not have any access to video cassette players, considering the fact that it is a high growth industry it is expected that in about a decade or two its accessibility figures would be far more satisfactory.

### Video-Disc

The video-disc technology is at present not available in India. A video-disc is a brilliant silver coloured disc about 30 centimetres in diameter. Use of a laser-based photochemical process makes it possible to produce a reflective surface master which faithfully reproduces the audio-visual properties of the original programme material. From this master disc plastic copies can be relatively inexpensively produced by moulding or stamping processes similar to those used for producing gramophone records. One can think of a video-disc as a high fidelity gramophone disc with pictures to accompany the sound. With the existing technology a video-disc can contain upto 55,500 individually numbered pictures or can play continuously for more than one hour. A beam of laser light is used to play the disc. It can be viewed on a standard T.V. set and hence has all the advantages of a video-cassette. However, there are two features of the video-disc player which makes it unique. One, since only a beam of light is striking the surface of a video-disc, the disc will last indefinitely. Two, the location on the disc from which the laser beam is receiving information can be changed rapidly and precisely. The precise rapid single picture access makes it possible to step through the whole video disc one picture at a time. In addition it provides slow motion forward and reverse and rapid scan forward and reverse. Most video disc players are equipped with a input port to accept digital signals directly from a computer. This combination of computer/video-disc player is the basic interactive video-disc system. This system makes it possible to develop computer assisted learning materials that combine the logical control and flexibility of computer software with the audio-visual characteristics of a video disc. Considering the fact that the physical capabilities of the computer/video-disc system are much more than any of the educational lessons now available, its educational uses can only be speculated.

### Word-Processor

If the technologies mentioned so far were mainly for the delivery of the educational programmes a word-processor is more for planning, designing and production of programmes. Considering the fact that the printed text has been and will continue to be for some time the basic medium for providing learning experiences in distance teaching, one can imagine the manpower, materials and energy being spent in production of texts. Word-Processors are like electronic typewriters with additional abilities for electronic as well as permanent external storage, computerised house keeping and visual display of at least 20-30 lines of text. Since the material is first stored in memory instead of direct typing on paper, a lot of amendments in the text in terms of spacing, sequencing, deleting, right/left justification etc. can be done before arriving at the final script to produce any number of copies through a printer unit. These facilities are extremely helpful in preparing a distance teaching text which routinely undergoes several process such as drafting, typing, redrafting, retyping, editing, illustrating, and printing. Having these facilities in one single machine helps in keeping the production of a course on schedule.

### Conclusion

Success of distance education depends largely on the use of alternative media available to us. There could be serveral other media not discussed here but of relevance to distance education such as telephone teaching, teleconferencing, computer aided instruction, teletext systems etc. What is important is not just using these media but properly organising them into a well defined instructional strategy, which is the essence of educational technology. Knowledge needs to be presented in a variety of symbolic ways for deep understanding of a concept or idea. While knowledge can be presented or represented through any medium, media differ in their facility to develop different intellectual skills in appropriately using and applying that knowledge. However, it may be difficult to reach all the learners with all the media mainly because several of them are inaccessible to serveral learners. This probably requires that local study circles and local media resource centres are available to all learners within easy reach. With growing access to radio and television serious efforts need be made to include them in every distance education course. A suitable system of using audio/video cassettes and the large network of telephone facility needs to be evolved. As far as the utilisation of radio and T.V. transmission network is concerned the targets identified in the Programme of Action on the National Policy on Education-1986 are promising. They include expansion of the existing network, establishment of radio stations in teaching universities, provision for a dedicated educational T.V. channel, and in the long run creation of a dedicated satellite system for educational needs.

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# Evaluation Methodology in Distance Education

N.L. MISHRA*

The distance learning programme aims at educating those who for one reason or the other are not able to join a college or university. There is a very large number of employed adults who want to acquire knowledge and earn a degree. Such persons, however, find themselves in a position of helplessness as they cannot afford any sort of disruption in their employment. The number of such persons too is unlimited who otherwise are very keen to go for higher education but they don't fit in with the normal admission criteria of our universities; with the result their aspirations remain unfulfilled. The distance education system, in fact, caters to the need of such classes of society. Thus, it compliments the formal educational system. On the basis of world-wide experience of 5-6 decades it has now been recognised as a practicable, economical and effective alternate channel to the conventional system of education. Remarkable developments in the mass-media such as radio, television, V.C.R. and other audio-visual communication techniques have added to the effectiveness of the system.

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Television, radio and video cassettes may constitute a considerable percentage of course component. .With such technical developments now it is possible to impart education to all those who are sitting at distant place.

Our universities so far have been mainly concerned with two important functions viz. teaching and research. There is now a growing realisation, as UGC has also mentioned in its guidelines for continuing education, that our universities though concerned with higher learning have an obligation to get closely involved in the development of the community through extension programme—"the country which has accepted democracy, socialism and secularism as its national goals to achieve development, cannot afford to restrict knowledge only to a privileged few. Plan to improve the standard of living of all and to narrow inequalities, have to look towards a system of education which will achieve the maximum spread of knowledge and skills to the less-privileged and under-privileged sections of the society. Viewed in this perspective it is imperative that the universities and colleges become sensitive to the learning needs of the society and respond to the same through relevant learning programmes and tools. The relevance of continuing and extension education, which is the third essential function of universities, in addition to teaching and research should be conceived in a more comprehensive manner." In this regard it is desirable that various types of informal education such as adult education, continuing education, community education, extension education and education through correspondence etc., are put together and planned under a single umbrella. This may help in evolving systems and methodology as per specific needs of a particular region or community.

## Factors in Designing Evaluation Methodology

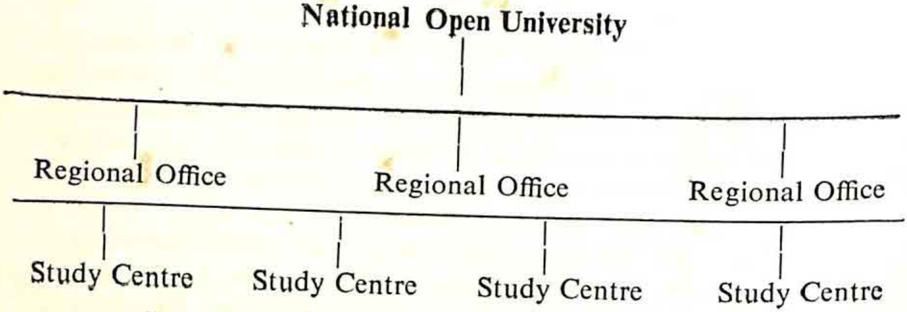
The underlying spirit behind the system of evaluation is just to know the actual standard of the examinee. However, while deciding the evaluation methodology and procedural details various factors should be kept in view. Analysis of these factors may help in having a pragmatic approach to the issue. This is more significant in relation to distance learning system which is itself in the process of evaluation and is yet to take a definite shape. Establishment of Indira Gandhi National Open University, New Delhi is a forward step towards achievement of the goal of a well established system of distance education and the present analysis is mainly in the context of this University. The factors which may have impact on designing the evaluation methodology are as follows :

(i) There is no formal and regular classroom teaching in the distance learning system. The students learn at home in their own way whenever they get time and it is convenient to them. Chances of face to face interaction between the teacher and the taught are very limited in this system. It is, sometimes, arranged through contact programmes but the duration of such programmes is generally very limited, say a fortnight or so. The students try to learn through recommended textbooks, subject booklets, written lessons, radio and television broadcasts and other audio-visual material. On Indian scene, it is the written lessons which provide the major part of source material. More than 90% course component is covered by such lessons.

(ii) Number of Students in an open university system may be unlimited. The Open University in U.K. with its headquarters at Milton Keynes, teaches more than 1,00,000 students every year. Having its jurisdiction over whole of the country, the Indira Gandhi National Open University too should expect its enrolment in lacs. While talking about evaluation methodology this important factor should be kept in view as regularisation of academic calendar is directly related with a timely commencement of exminations and declaration of results.

(iii) Having its jurisdiction over whole of the country an open university while deciding examination system cannot overlook the factor of physical distance. This factor becomes more significant in case of National Open University, New Delhi which has to take the vast geographical area of 31,66,829 sq. kms. into consideration. Needless to mention evaluation scripts will have to be collected from the examination centres, scattered all over the country.

(iv) Infrastructure developed for the purpose of teaching and general administration has a direct bearing on the arrangements made for examination. This is also true in case of formal education system where the colleges and schools are kept as examination centres and the same machinery is used practically for all purposes. From the angle of administrative arrangements, monitoring and review it is noteworthy that our national open university may have three tier administrative set up as it illustrated below :



It is expected that the regional offices would be set up at the State capitals. The Study Centres may be established at district or sub-division head-quarters keeping in view the various factors such as number of students, physical distances, availability of transport facility and suitable teaching institutions etc. In big cities there may be more than one Study centre.

(v) Linguistic difference is the major factor which should be kept in view. In different parts of the country different languages are in use as medium of instruction upto secondary level. English and/or Hindi are used as link languages. However, there are areas where neither English nor Hindi is understood well.

(vi) The open learning system has tremendous flexibility with regard to the admissions and choice of courses and optional papers. The entry regulations may be liberal and flexible so as to enable different sections of the community like employed adults, housewives, dropouts and left over youth and other disadvantaged group to avail of the facilities offered. Thus a heterogeneous mass of pupils—old, young, persons from cities, rural areas, developed plain areas and underdeveloped tribal areas may get enrolled. No formal qualification or certificate is required at entry point. There may be an entrance test, just to ensure that the applicant has the capacity to understand and follow the courses. Having persons from different cultural background it is desirable to evolve such an evaluation methodology in which only the knowledge gained by the students may be the primary thing for judgement; no other factor may affect the assessment.

## Aspects of Evaluation

In the context of education system the term evaluation means to assess or to determine the value or standard of knowledge of the examinee at a particular time i.e. the time when he appears at the examination. Thus the evaluation has two ingredients—student and examiner. The examining body, a university or a board, plays the role of co-ordination in between the two. The examiner may try to assess the mental standard of the examinee in more than one ways. He may ask him to speak on a given topic, may discuss with him, may watch his action if asssignment is that of a practical nature of may ask him/her to write the answer of questions given in question paper. In this regard, three points are worth considering :—

(a) What are the aspects of assessment ? What do we want to assess ? We want to assess knowledge, understanding, application, expression or writing power. Needless to mention, the form of enquiry would be determined by this.

(b) The form of enquiry or the type of questions aiming to get spontaneous answers from the examinees.

(c) The ratio between various aspects of assessment. It generally depends upon the purpose of assessment. May be that reasoning is the main objective of assessment in one examination while the knowledge or expression in the others. Naturally the main aspect will form the major part of enquiry (examination).

## Evaluation Scheme

Keeping in view all this and the factors analysed in the foregoing paragraphs the following scheme of assessment may be suggested for the distance education system.

### A. For subjects having practicals

(i) 25% marks for tutor marked assignments,

(ii) 25% marks for testing the capacity of practical application. The examination may be arranged at the local college (study centre) level in the form of practicals, viva-voce, group discussions, interviews etc.

(iii) 50% marks for theory papers which may be held at the end of the course. These may be computer marked assignments.

## B. For subjects involving no application (practicals)

(i) 25% marks for tutor marked assignments.

(ii) 75% marks for theory papers which may be held at the end of the course. These may be computer marked assignments.

## Concept of Tutor Marked Assignment

Such assignments are more significant in a system like that of distance learning programme where there is tremendous flexibility with regard to admissions or offering the courses. As to seek admission to an Open University it is not necessary to have some formal qualifications, substantiated by a proof in the form of certificate or degree, there is no scale to judge whether the student is able to express well whatever he knows. At the same time it is essential to make efforts to promote this skill. Tutor marked assignments may play a vital role in this regard. However, unless it is ensured that the students take up the practice of such assignments very sincerely and submit the same regularly in time, the purpose will not be served. To make the practice of tutor marked assignments a regular feature it is desirable to introduce some element of compulsion, motivation and self-interest. This can be very well done by alloting some percentage of marks to these assignments, as suggested in the foregoing paragraphs. A fixed number of assignments may be selected out of the total number of assignments given to the student. It may be the discretion of the tutor as to which assignments he selects for marking. The number may, however, be fixed. Suppose a student is expected to submit 10 assignments for a course, 6 of them may be selected for marking. The selection of assignments and marking thereof would not be a one time feature; it should be done at regular intervals throughout the year. The student should not know as to which assignments are going to be selected for marking. Thus he will prepare all the assignments sincerely. In the Open University at Milton Keynes (London), a student is expected to submit eight tutor marked assignments in a year and the university policy is to pick up any 75% of these assignments for assessment and marking.

The assignments, in fact, should be designed with specific purposes such as to promote the skill of expression summarisation communication and point to point writing of relevant matter only. These may be designed in such a way that it may compel the student to apply his mind and put in lot of labour. Thus long answer-questions, essays, precis, summaries, comments etc., may constitute a major part of such assignments. Needless to mention, these assignments would be prepared on the basis of literature provided by the University in form of booklets, lessons and books recommended for further reading. The source material may also be indicated on assignment-sheet itself. This will inspire the student at least to go through the right type of reading material.

While talking about tutor marked assignments, one may think of internal assessment. However, there is a marked difference between the two and that is in regard to physical distance between the examinee and examiner. In internal assessment system the teacher who teaches the students in classroom is supposed to assess the scripts. Thus there are very many chances of subjectivity for one reason or the other. We should frankly admit that our social conditions and moral standards do not provide ideal conditions for internal assessment system. This system was tried in many Indian universities but was given up after a year or two. It had been a general complaint that the student who secured 36% at higher secondary level could get 70% or 75% marks in the university examinations. This is inherent apprehension in the internal assessment system. This cannot be the case with tutor marked assignments in distance teaching system, as the examiner and examinee don't know each other.

## Question Paper Setting

While setting question papers for annual examination, it is desirable to keep the following guidelines in view :

(i) The questions should be set covering the whole syllabus. For this purpose the course contents may be devided into various units.

(ii) The questions should be such that these cannot be answered without a thorough reading and deep knowledge of the subject.

(iii) The questions should, as far as possible, be of objective type so that uniformity of assessment may be maintained with the help of a marking-key, prepared for the purpose. If need be the scripts may be examined by computer also. This is very much relevant in an open university system where the number of students may be in lacs, the examination centres be scattered all over the country, the examiners may be, selected from different universities and the students may have different linguistic backgrounds. If the questions are to be answered by a long narration it may take longer duration in assessment in addition to the language difficulties faced even at the end of examiners.

(iv) There may be one-word answer, multiple-choice, filling in by suitable answer and pair-making type questions. The question paper and blank answer-sheet may be one and the same. Such scripts may easily, quickly and correctly be assessed by both the examiner as well as the computer. From the view point of timely declaration of result and regularisation of academic calendar it is desirable that the job is done by computer.

(v) The question papers should be set in two languages i.e. English and Hindi.

(vi) The number of objective type questions to be answered in a given time should be enough so that the examinee may not afford to divert his attention even for a while.

(vii) If the scripts are to be assessed manually, short notes, comments and one line answer type questions may also be asked.

In fact, the setting of question papers is very important part of the examination. Type of questions directly affect the time consumed in assessment and also the quality of assessment. It has been observed that the variation in awards (for the same answer-book if assessed by more than one examiner) is much more in essay type questions as compared to objective type or short answer type questions. Thus to minimise the chances of subjectivity, to improve the quality of assessment and to reduce the duration in the process, it is desirable to lay emphasis on the objective type questions. The question paper setting, in fact, is an art and an efficient paper setter can easily judge the standard of actual mental calibre of the examinee through answers very easily.

**Concept of Blueprint**

Advance planning should be done in regard to setting of question papers. Looking into nature of subject, blueprints should be prepared for each paper. This job could be done at university level by the subject experts. Once the blue-print is prepared for a paper it can be used for more than one year or even more unless there is a marked change in course content. Such-blueprints may be given to paper setters. A blueprint is a sort of outline which provides guidance to the paper setter. With that guidance he may set questions to assess the capacity of examinee in the specific areas. Such areas may be the knowledge, understanding, skill or practical application etc. For example, in the paper of language or mathematics, objective type questions may be set to test the capacity of practical application. In the area of skill it may be tested whether the knowledge and understanding of a particular subject has added to the skill of the examinee in that particular field.

### A MODEL BLUEPRINT

Subject..................Paper.................... Year.................

| *Course content* | *Knowledge* | | | | *Understanding* | | | | *Application* | | | | *Skill* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sub-unit | O | M | F | T | O | M | F | T | O | M | F | T | O | M | F | T |

(O=One word answer, M=Multiple choice, F=Fill in the blanks, T=True-false).

For each sub-unit of the course content percentage and the number of questions to be asked in the areas of knowledge understanding, application and skill may be prescribed. In the same way, the number for each type of objective questions may be mentioned in regard to each area. After completing all the units, the totals for each of the four areas and each of the four types of questions should be calculated. If the totals tally the blueprint may be taken as completed. For example, the nature of course content in a paper is such that it requires 50% questions on knowledge, 35% on understanding and 15% questions on application. Time given for the examinee is 2 hours and within this duration he has to attempt 200 questions. The number of questions to be asked in each area would be as under :

| | |
|---|---|
| Knowledge | 100 |
| Understanding | 70 |
| Application | 30 |
| Skill | 0 |
| Total | 200 |

The number for each type of questions will also depend upon the nature of course content. In this example, it may be as under :

| *Area* | *Total No. of questions to be asked* | *One word answer* | *Multiple choice* | *Fill in blanks* | *True false* | *Total* |
|---|---|---|---|---|---|---|
| Knowledge | 100 | 15 | 35 | 30 | 20 | 100 |
| Understanding | 70 | 10 | 25 | 20 | 15 | 70 |
| Application | 30 | 5 | 15 | 5 | 5 | 30 |
| Skill | --- | --- | --- | --- | --- | --- |
| Total | 200 | | | | | 200 |

## Practical Examinations

There are certain subjects in which practical exercises are required to develop the capacity of practical application. It is essential in the field of natural sciences. In humanities and fine arts also there are some disciplines where such exercises are desirable. In distance education system where there is no formal teaching, these exercises are arranged in the local colleges in the evening, on Sundays or during the holidays. The Coordinator generally makes such arrangements with the institution situated at the headquarters of Study Centres. Local lecturers are engaged for the purpose. Thus it is a sort of camp coaching where all the practical exercises are got completed within a given time. As far as examination for these practical exercises is concerned it is desirable that :

(i) the examiner should be called from outside. He may be from any college situated within the region. This examiner may be called as external examiner;

(ii) the local person who actually guides the students during the coaching camps may also be associated in capacity of internal examiner;

(iii) the award sheets of these practical examinations may be collected at regional office from where the lot may directly be despatched to the computer firm for tabulation;

(iv) the external examiner, in consultation with internal examiner, may set the exercises there on the spot. However, a general frame for the various exercises such as experiments, viva-voce, group discussion and record etc., may be prescribed so that the examiner may fit in his queries within that frame. This is desirable from the view point of uniformity in assessment as well as tabulation of marks; and

(v) Practical examination should be held prior to the theory papers. It will help in early declaration of results.

## ORGANISATIONAL ASPECTS

### Examiners

As the students enrolled in open university system are scattered all over the country and their number may be in lacs, the panel of examiners should be prepared on national level. Applications may be invited through open advertisement. The panel of examiners may be further rearranged subject and region-wise. The names may be ticked as per requirement. For practical examinations the selection may be made on regional basis.

### Examination Centres

Like other activities, for examination management also the open university system may be three tier set-up i.e. Central, Regional and the Study Centre level. The examination centres may be decided by the regional office. While finalising the examination centres the following points should be kept in mind :

(a) The place is well connected by rail or road transport.

(b) No student is required to travel a distance of more than 30 Km. to reach the examination centre.

(c) It should preferably be a Government or semi-government institution.

(d) Each centre may be given a code number. Such numbers should be known to the concerned persons only.

(e) The Principal and Vice-Principal of the college (where centre has been made) may be appointed as Centre Superintendent and Additional Centre Superintendent respectively.

(f) There may be certain guidelines and norms for invigilators. Only persons fulfilling these norms may be appointed as invigilators by the Centre Superintendent in consultation with the regional office.

(g) Examination and subject-wise numerical returns should be prepared for each contre well in advance so that the answer books and question papers are sent accordingly.

**Assessment**

Initially all the answer books may be collected at the regional offices : further steps will depend upon the mode of assessment. If assessment is to be done by computer, answer-books from all regional centres may be despatched to the university/computer centre. On the other hand, if the scripts are to be got assessed by the examiners, these may be sent to the examiners directly from the regional office collection centre. Examiner-wise allotment of answer books may be done at University level and accordingly subject-wise lists of examiners may be sent to regional office in the following format :

**Examiner-wise Allotment of Answer Books**

For the Examination..................(Year)

Name of Exam/Class.........Name of Subject/Paper........

| 1<br>S. No. | 2<br>Name of Examiner | 3<br>Address | 4<br>Code No. of Centre(s) allotted | 5<br>Total No. of answer books allotted | 6<br>Roll No. from . ..<br>to. . . . . |
|---|---|---|---|---|---|

As a third alternative, if the scripts are to be assessed by examiners centrally at a fixed place, it should be organised at the regional level. For central evaluation which is generally arranged from the view point of early declaration of results, an advance planning is desirable. It should be ensured that roll numbers of a particular region are allotted to the examiners from the colleges situated in the proximity of the regional office so that the expenditure on TA and DA may be minimum. From central evaluation centre awards can be sent to computer firm directly.

## Result

For tabulation and working out of results three types of marks would be fed to the computer i.e. marks of tutor marked assignments, practical examinations and theory papers. The first two sets of marks may be fed in advance. For the marks of previous examination, say in case of II Year or III Year, there should be no problem as the computer itself would do the job of reconciliation. We can't expect things like supplementary examinations or revaluation in the distance education system. R.W. (result withheld) cases too should be totally absent in this system as all the requirements and information are completed at the time of registration. Moreover, requirements like migration certificate, domicile certificate, mark-sheet/degree of qualifying examinations and proof for age which cause withholding of results in the formal system, do not have any relevance in the open learning system. Thus the situations like updation of results can hardly be there. All this may help in early processing and declaration of results.

Percentage for passing an examination and that for awarding divisions may be kept at par with other universities so that the students having a degree from the open university may feel that he is in the mainstream of higher education and in no way inferior who pass out through conventional system. The result should be communicated to the candidate concerned under registered post along with the marks-sheet. In the same letter it may be asked whether he is interested in further courses. If he is willing he may be advised to send the requisite fee within the prescribed time. No other formality be required to be observed for the purpose of admission to the higher standard or appearance at next examination.

## Monitoring and Review

'Man' is the key factor behind all the systems. Unless the persons involved in the system work sincerely, honestly and with utmost dedication no system can reach the stage of perfection. This is specifically true in case of examination management where each step is a time bound programme. In a system like that of distance education the necessity of monitoring becomes manifold. With a very vast jurisdiction, huge number of students, flexibility in admission and offering of courses, no open university can do successfully unless it has a well developed system of close monitoring. Out of the three tiers, i.e. University, Regional Office and Study Centre, the middle link i.e. the regional office has a vital role to play. It is the regional office, in fact, which regulates the whole scheme. Right from arrangements for the study centre to declaration of results this level has to activate the whole machinery. Thus a very effective system of a monitoring is required at this level. At university level there should be a separate monitoring cell, always busy with preparation of time schedules, collection of information on prescribed proformas, analysing the progress, identification of weaker areas and suggesting remedial steps.

# 20

# Effective Pupil Evaluation in Distance Education

ARUN K. GUPTA*
RENU ARUN**

The effectiveness of educational systems is determined to a large extent by the evaluation machinery inbuilt in them. The conventional system of education has been castigated for its over-emphasis on achievement and examinations. Passing examinations and acquiring paper qualifications have become major objectives of education at the cost of other worthwhile educational outcomes. Distance education, which is fast emerging as a worthy alternative to conventional education and which has to its credit several innovative features and advantages, must avoid the pitfalls in which the traditional education has fallen. Distance educators and researchers must, therefore, direct their efforts to the task of evolving a suitable evaluation machinery for the distance learning systems keeping in view their characteristics, diversity, potential and promise. This shall constitute a major step towards evolving the appropriate technology of distance education, need for which has been highlighted in recent years (Childs, 1971 ; Holmberg, 1977, 1981 ; Rowntree, 1977 ; Ljosa 1978 ; Gupta, 1979 ; 1982).

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## Main Approaches to Pupil Evaluation

Unfortunately, most distance educators, like their brethren in the formal system are ignorant about the basic purposes of evaluation which are (a) diagnostic (b) motivational (c) guidance (d) prognostic and certification respectively (Gupta 1975). They are, on the one hand, not properly informed about the repertoire of

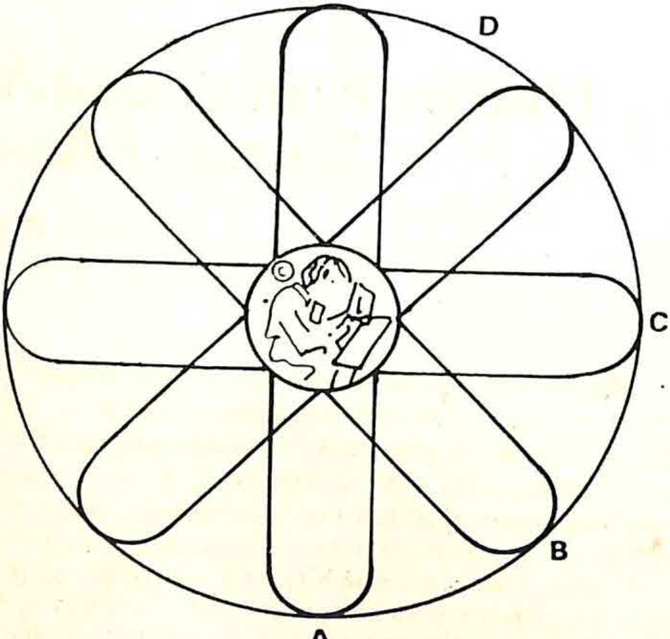

Figure 1

MAIN APPROACHES FOR PUPIL EVALUATION

Ⓒ DISTANCE LEARNERS
A NORM REFERENCED EVALUATION
B CRITERION REFERENCED EVALUATION
C INDIVIDUAL REFERENCED EVALUATION
D INSTRUCTIONAL PROGRAMME AT A DISTANCE

techniques available to them for multi-dimensional pupil assessment. On the other hand, they are unwilling to use these in their day to day work for various reasons—inertia, lack of knowledge and mastery, and lack of faith etc. It seems worthwhile, therefore, to identify the main approaches to pupil evaluation which can be used with advantage in the distance learning systems main characteristics of which are (a) separation of teacher and learner, (b) influence of an educational organization that distinguishes it from private study, (c) use of technical media, usually print, (d) provision of two way communication between teachers and learners, (e) teaching of people mainly as individuals and rarely in groups, and (f) elements of a more industrialized form of education with activities like job scheduling, warehousing, postal and media despatch etc. (Keegan, 1980). Figure 1 (on pre-page 156) is illustrative of the three approaches to pupil evaluation.

In Figure, 1 (on pre-page 156) the core© represents the distance learner, a dynamic entity with definite abilities, experiences readiness, learning capacity, personality and behaviour which are always in a state of flux. Through the instructional programme offered at a distance according to any of the four models outlined by Keegan (1982)—the correspondence school model, and the Integrative model—educational and behavioural changes are to be effected in the individual and mastery over certain skills, concepts/facts ensured. At the same time, development of certain abilities may also be involved. All these have to be assessed effectively. The use of three evaluation strategies becomes important. These are :

1. **Norm Referenced Evaluation :** It is based on the theory of individual differences and is ideally suited for the assessment of human abilities. Some of the abilities which learners are expected to develop are abilities to think, comprehend, identify, organize, synthesize, perceive, manipulate, articulate, initiate, demonstrate, communicate, classify, interact, discriminate, compare, construct, rearrange, memorize, match, complete, analyze, relate, apply, evaluate, interpret, produce, generate and create respectively (Bloom, 1956; Gallach and Sullivan, 1969; Guilford, 1971; Flanders, 1971, Gagne, 1975).

2. **Criterion Referenced Evaluation :** It is based on the acceleration theory and assumes that almost all pupils can attain high

levels of achievement in terms of appropriate behavioural outcomes provided they are given sufficient time and appropriate instructional conditions. This type of evaluation is best for the testing of attainment of concepts, or skills and behavioural outcomes according to some predetermined criteria i.e. for performance testing. According to Glaser (1962), performance assessment is the process of measuring the student's auxiliary and terminal performance during and at the end of instruction. According to Carroll (1963, 1965), realization of educational or instructional objectives depend upon the time spent by the learner to learn a task. The aptitudes, perseverance and ability to comprehend instructions are important ingredients while quality of instruction is vital in ensuring learning.

**3. Individual Referenced Evaluation :** This type of evaluation is a contribution of humanistic psychology. According to self-theorists namely Maslow (1954); Allport (1961); Coombs & Snygg (1961) and Rogers (1969) self-enhancement and self-actualization of the individual are the ultimate objectives which should be promoted through the discovery of his talents and areas of strength. Personal adequacy, self-esteem, satisfaction and actualization provide motives for learning and good human relations, values, attitudes and adequate personality. Success and satisfaction should be the outcomes of instructional procedures. Evaluation is to concern itself with an individual's experiences, personality and behavioural changes; it has to be flexible and not imposed on the pupil. The student himself determines what he has and has not learned in the light of his own needs, problems, interests, aptitudes goals and values, performance assessment and comparisons vis-a-vis others are not important. These really do not matter.

The three approaches to evaluation discussed above, yield different types of information about the individual. While there may be some everlapping in the information yielded by these approaches, yet the significance of obtaining a comprehensive multi-dimensional feedback about the learner based on the combination of the three approaches needs to be understood and incorporated suitably in the distance learning system. In Table 1, have been summarized, the salient features of each type of evaluation, the tools, techniques and devices that can be used for them and their suitability for different models of distance learning institutions respectively.

## Evaluation for Distance Learning Systems :

General Considerations

1. Evaluation should be diverse and flexible in accordance with the diversity within the learning population of the distance learning institution. Each student brings his own frame of reference (Sewart, 1982) into the learning process and a uniform package of evaluation cannot be fitted on one and all.

2. The evaluation system for a pedagogical distance learning system would have to be differently designed from the evaluation system for an andragogical distance learning system. Pedagogy assumes that the learner has a dependent personality. In andragogy, the learner is assumed to be seeking increasing amounts of self-direction (Coldeway, 1982). In the pedagogical model, the teacher determines the curriculum, teaching methods, and evaluation strategies. The andragogical model stresses the importance of a teacher as an agent in helping the learner participate in educational alternatives and make maximum use of all the elements available for teaching and learning. Hence, a different approach in evaluation.

3. Evaluation procedures should be designed taking into consideration, the academic and vocational orientations of the pupils. As succintly observed by Taylor, Gibbs and Morgan (1980), orientation or the different ways in which students relate to their studies is of four kinds—vocational, academic, personal and social, and further, these are extrinsic and intrinsic types. Whether students want to gain qualifications or acquire future vocational skills, whether their primary motive is getting to the next step in academic ladder or to learn the subject, whether they are interested in testing their capacities (Marton, 1981, Marton & Sevenson, 1982). Consequently, these differences in emphasis which may be surface level or deep level shall have to be considered while determining the structure and details of assessment machinery.

4. Selection of evaluation procedures must follow content analysis and learning task analysis otherwise evaluation may remain lopsided. Content analysis leads to a better

formulation of instructional objectives, determination of best teaching strategies and to sequence learning activities (Penney, 1982). Task analysis delineates the conditions both internal and external to the students which would be necessary to bring about the learning of different types of capabilities so that appropriate learning strategy and terminal behaviour can be predetermined (Gagne, 1975). Evaluation, conceived in the above framework, shall become an inherent part of the whole learning system. It shall remain lopsided with either too less or too much evaluation for optimizing instructional outcomes.

5. Evaluation procedures for distance learning systems must be revalidated for these systems especially when incorporating innovations and modern technology. Most of the assessment techniques were developed by educators for use in the traditional educational settings. Distance educators simply borrowed these techniques and transplanted these in their systems assuming that these would equally be valid there. To illustrate, in the absence of multi-media support, achievement tests of essay type may not be the proper assessment techniques in distance education and yet these are the only tests employed in distance education programme especially in the developing countries today. At the same time, with the advent of computers and two way communication systems, who knows we might yet find such tests ideal for some situations in distance learning especially when students can write directly on the T.V. screen and can even get their verbal responses recorded under the watchful "eye" of a video camera. Similarly, objective tests can be computer controlled and evaluated and concepts like question banking and answer banking can prove helpful to distance educators to devise better evaluation methods. Distance educators shall have to incorporate innovative strategies to lend "teeth" to their evaluation procedures for maximum effectiveness. In this context, the importance and need of the training of distance educators to master evaluation skills cannot be under-estimated.

### TABLE 1

Main Features, Techniques and Evaluative Devices of three Evaluation Approaches vis-a-vis their Suitability for Distance Education Models.

| *Type of Evaluation* | *Main Features* | *Techniques/Devices* | *Suitability for Distance Learning System* |
|---|---|---|---|
| Norm Referenced | (1) Ideal for measuring individual differences, for classifying and grading learners in various categories and for making comparative decisions among individual.<br>(2) Items constructed to maximize variability of test scores.<br>(3) May be made at any time during the course or at predetermined points. | 1. Achievement Tests<br>(A) Written<br>(B) Oral<br>(C) Project Work/ (Assignments/ Thesis/Term paper).<br>(D) Performance Tests<br>(i) Practicals<br>(ii) Situational test.<br>**$A_1$ Closed Book Type**<br>$A_2$ Open Book Type<br>a Essay Type<br>b Objective Type<br>$a_1$ Detailed Answer Type<br>$a_2$ Short Answer Type<br>$a_3$ Application Type | 1. Ideal for integrated Model.<br>2. Suitable for consultation model.<br>3. B, C, $A_2$, D suitable for correspondence school model.<br>4. B, C and b suitable for multi-media system. |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
|  | (4) Interpretation of scores possible only with reference to the scores obtained by others in the group. | $a_4$ Thought Type<br>$b_1$ Completion test<br>$b_2$ Alternate Response test<br>$b_3$ Multiple choice test<br>$b_4$ Matching exercises.<br>$B_1$ Viva-Voce<br>$B_2$ Discussions, Seminars Conferences.<br>$B_3$ Quizzes.<br>$B_4$ Interviews. |  |
| Criterion Referenced | (1) Ideal for measuring the effectiveness of a programme/instruction ; for deciding mastery of instructional material, for evaluating student performance relative to specific performance levels. | Same as above with special emphasis on $b_1$, $b_2$, $b_3$, $b_4$, $a_2$, $a_3$, $B_1$, $B_2$, $B_3$, $B_4$, | 1. Ideal for multi-media system. Model.<br>2. Suitable forcor respondence school model, consultation model and integrated model respectively. |

(2) Items coustructed to test each and every objective specified in content demain: items provide specific information on individual performance level on objectives.

(3) Made at the end of the programme instructions; scores can be independently interpreted; scores reveal whether criterion has been mastered or not.

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Individual Referenced | (1) Ideal for assessing personal growth, creativity, degree of awareness, effective development, behavioural and personality changes i.e. actualization as a result of programme/instruction.<br>(2) Items/tests constructed to maximize the expression and communication of personal awareness and experiences and capacity for self evaluation. Tasks to provide 'spurs', intrinsic motivation for further growth, | Scheduled interview, discussion, seminar, diaries, progress, reports, introspection reports, psychometric and sociometric techniques like questionnaires, attitude opinionnaires, attitude scales, observations, personality tests, especially projective techniques and inventories, assignments and project reports, recorded tapes both audio and video, situational tests. | 1. B,C,$A_2$, ideal for consultation model.<br>2. Highly suitable for personalized instruction system in the correspondence school model, suitable for multimedia system. |

and experiences i.e. "becoming".

(3) Must be made at the start and end, at intervals if needed.

(4) Interpretation on the basis of quality of responses, with reference to individual's earlier status, needs, goals, problems, aspirations, attitudes and value structure and changes therein.

### Role of Research

In the task of delineating sound and functional conceptual framework for evaluation in distance learning situations, the following issues need serious consideration at the hand of theorists and researchers :

1. Place of self-evaluation in the evaluation machinery and the weightage given to self-evaluation vis-a-vis external evaluation.
2. Effective use of evaluation in reducing dropout rates and increasing success.
3. Design of adequate, reliable and valid assessment techniques for measuring changes in disposition, attitudes, values, satisfaction and self-enhancement on the one hand and higher order abilities like creativity, problem solving, resourcefulness, etc. on the other hand.
4. Ensuring comparability of standards in academic programmes utilizing distance learning techniques, engendering confidence in the evaluation of an institution issues related to accreditation on local, national and international planes.
5. Use of multimedia in devising objective, reliable and valid assessment techniques.
6. Establishing relative efficiency of different evaluative techniques and devices for different target groups, different instructional programmes and different situations to highlight intra-individual and inter-individual differences.

Morgan, Taylor and Gibbs (1982) rightly described assessment as the most powerful influence on studen't experiences of learning in distance education. However much remains to be done to make his assessment theoretically sound, objective, reliable, valid, flexible, multi-dimensional and useful. The sooner distance educators realize this, the better it would be for the future growth, development, success and utility of distance education.

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## 21

# Media in Distance Education

ANIL PATHAK*

Distance Education is a new-born baby in India. And so much awe and wonder goes with the mode of communication we use for it. 'Multi-media approach' has brought with it a set of gross over-simplifications. 'Interaction' has become an easily usable catchword. It is time to understand that interaction in distance education does not happen simply because of the presence of a satellite or a TV. Facilitation of interaction is one thing and bringing in new media of communication does not guarantee it.

Another common misbelief is that the greater number of media we use, the more effective will be the interaction. Experiences of educators all over the world show that a new medium brings with it new philosophic problems. Let us not misconceive that a satellite-based course will be always effective than a course that uses just printed material and face-to-face sessions. No medium of communication has an absolute value to it and it is wrong to suppose that a TV is always more effective than a radio or a video more convenient than TV. Next, the value of medium depends on *what* you want to communicate. Teaching surgery through distance mode will require one medium and teaching writing skills, another. Lastly, we should also think of the combinations of media when we talk about 'multi media approach'.

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Should radio talk support the printed matter ? Can slides go with satellite communication ? Are radio and TV interchangeable? True, questions like these cannot be answered objectively and many of the answers will emerge from the situational context. Yet, there is always a need to place a medium appropriately in an 'Integrated-media' approach according to the following criteria :

i. Value associated to the medium.

ii. Its suitability with the subject matter.

iii. Its possible combinations with other media.

Let us, see, in detail, the uses of and the problems associated with each of the media.

## II

### A. Print Media

The printed word is no longer regarded by the educators as 'non-communicative' or ineffective. In the words of Holmberg, "By far the most important medium in distance education courses is the printed word. This applies to conventional correspondence study, as well as to highly sophisticated multi-media, presentations like courses of the open university" (Holmberg, 1985:62). Though we said earlier that the choice of media depends on the subject matter to be conveyed, the value associated with the print medium seems largely objective and independent of the nature of subject matter. Print medium has proved largely effective in each of the cognitive, affective and psychomotor domain, and there will hardly be any educator who wants to be little or ignore the place of this medium. As Charles Zuber of the University of South Pacific said : "Any medium ...can generally be regarded to a greater or lesser degree as support for course material in form of print. Care must always be taken that this existing and fundamental medium should not be over-looked" (Zuber, 1981:2). In my opinion, the words of Zu ber are representative. Yet there are occasions when experiments show that printed word is more effective in certain domains than the other. In Nashif's opinion "...if the objective is cognitive, involving analysis as in philosophy, the printed word will probably be more effective" (Nashif, 1981:2).

Secondly, accepting the indispensable value the printed word carries, one cannot ignore two evident shortcomings of the print media. Print media lack the personal touch and secondly are not flexible or open enough to allow for dialogue. This makes us state the need for supporting the printed word with the non-print media.

### B. Radio

Radio seems to be a very practicable instrument for adult education. Even in countries like India, it is easily accessible for the learner. It can add a personal touch by bringing in the voice of the tutor. However, radio raises the serious question of learner autonomy. It forces the learner to listen to the programme at a particular time and does not allow the learner to work at this leisure. This is applicable even to TV and the manner of using radio should be decided keeping this handicap in mind. One way which is usually suggested is "...any audio-visual electronic programme used must be complemented by other media to ensure dialogue, such as telephone conversation or written answers or direct cofrontation..." (Nashif, 1981:4). A project for studying the effective use of radio in correspondence courses began in Japan in 1976. The results tell us how cautiously we should use radio programmes. The results showed that "...only 2 to 2.5% of the respondents viewed the programmes successively from the first to the last. In terms of comprehension, 11.8% reported that the lecture was 'very well understood', 29.4% mostly understood and 35.8% 'understood a little'." (Sakamoto, 1981:2a)

### C. Audio Cassettes

An obvious advantage of the audio cassettes over the radio programmes is that they are under the control of the user, students can stop the player to take rest, make notes or can replay a difficult section. One more use of the cassettes, in the words of a student, is : "I find the tapes very useful, particularly the discussion ones. It is definitely a 'contact' with the staff even though it is remote (Gough and Mcdonald, 1981:16).

A study of the Distance Teaching at Thailand's Sukhothai Thammathirat Open University (STOU) gives us an idea of the different purposes the audio cassette can be used for. STOU used the tapes to

—provide orientation of the course
—clarify certain complex ideas
—give feedback to the students' activities and assignments
—summarize major ideas of each unit
—present the views of external experts

Massey University (New Zealand) tried using cassette tapes for tutorials in History. Groups of learners listened to a lecture on the tape. Then they would discuss the given questions and record the conclusion on the tape. They sent this tape to the university which sent its comments either again on tape or through mail. Dr. Robert Gwynn has analyzed the results (Gwynn, 1981) and they would be applicable to all the subjects where tutorial forms an essential part and where no single answer is possible for a given question.

However one of Gwynn's observations can prove to be more significant. A number of groups failed to heed the directive that their responses be taped on the evenings the tutorials were held. According to Gwynn, this may indicate a sense of insecurity in handling a new mode of communication. This leads us to think of the necessity of including the media-study skills component in any Distance Education System. This component should enable the user to make an effective use of the media.

## D. Televised Teaching

The use of television requires a great care; especially in the matter of combining it with other media. Television generally cannot convey all or exhaustive information and so it needs to go with print and other non-print media. When televised teaching was tried out at Akita University in Japan, the results showed that students could attend the televised lecture class at ease with little physical fatigue, but because they attended with the attitude of an onlooker, they became gradually dissatisfied to participate in communicative activities (Sakamoto, 1981).

This shortcoming of the television makes it wholly unusable in the case of some subjects. Another difficulty may occur at the production stage itself. Kelvin Grove College (Queensland) experimented teaching philosophy at a distance video. They tried to use video to project philosophic discussion. The aim was to share with external students the philosophical experience of "talking things through" or philosophising. A paper on this experiment says :

> "We were cautioned by media services about the quality production. According to them, end production quality relies heavily upon camera work (obvious). When a production is scripted the cameraman knows who and what to look for. In an unscripted setting the cameraman does not have the same "lead time"... The cameraman found difficulty locating the speaker until they recognised the non-verbals associated with a speaker's desire to speak..." (Haines, Symes and Chipley, 1981:99).

Moreover, it is quite impossible to write a "script" before the discussion. As Haines and others stute, their own approach to teaching philosophy made it impossible for them to write a script for events to follow.

Again, a training to use TV and video becomes a must for the learner. "The introduction of television into the educational process has created the need for visual literacy."( Schimeck, In Daniel and Others 1982 : 272).

Successful attempts have been made to increase the capacity of the television set. This has led to two new media : Video-disc and videotex. Video-disc is like a long playing record carrying both audio and video and working through the conventional television set. Videotex has the potential to make the home television function like a computer terminal. The owner of the T.V. can have access to vast computer data and can receive text information and graphics from a remote data base.

### E. Satellite

In 1980, satellite, delivered T.V. was made accessible to everyone in Canada. Summing up its impact on Distance Education, Geoff Potter wrote :

> "In some cases, Hermes (the satellite) brought people together in away that was every bit as emotionally moving as it was intellectually stimulation. In other cases, students became bored, technical problems made effective interaction impossible, information seemed colourless and static. (Potter, 1981 : 3).

Using Satellite, on one hand, is a rewarding and rich educational experience. On the other hand it creates a whole multitude of problems of planning. Potter points out how satellite-based communication can be extremely impersonal. In the classroom the instructor is giving some "treatment" to the information. But the instructor and the information become inseparable in satellite communication. The difference between the instructor and the information is very crucial and it is this defference that produces the spark in the heart and the mind of the student, which we call "comprehension", "recognition" or "understanding".

Secondly, because of the pressure on time, the organization of a programme is always tight. If you believe in the theory of learning by doing or learning by personal exploration, satellite has much less to offer to you. Learning through satellite is basically 'learning by guidance'.

In his paper, 'Moral Ties and Satellite Networks', Griffin points out some basic faults in 'mouth to mouth' communication. They refer to the problems of duration, speed, absence of visual clues, uni-dimension, absence of phatic communication and disembodiment. According to Griffin, the role of the coordinator is very crucial and very difficult in a satellite programme (Griffin, 1981:125).

## F. Face to Face Sessions

Residential study sessions are usually considered necessary only for a few subjects. True, they are indispensable for a subject like Philosophy (where a comparison of different attitudes in necessary) or Pronunciation of English (where some practice and remediation from the tutor is necessary), they will also help students for other subjects. The more important question is *how* to use these sessions.

Some universities use these contact hours mainly to summarise or reinforce whatever goes through print and other media. In fact, study sessions can be organized to serve altogether different purposes. An example is STOU which arranges its 4 sessions in the following manner.

—one for orientation
—two for tutorials
—one for review.

(Brahmawong, 1981)

If telephone is being used as a medium, its use can run supplementary to the use of study sessions. Telephone can also be used to encourage, orient, counsal etc., the consolidation of which will take place in the final sessions.

### III

With the use of Telidon, Videotex and satellite, media has no longer remained just a matter of supplementing Distance Education. The problem has always been to integrate the new media with the course structure and in this process of integration, a number of changes are taking place in the fundamental nature of Distance Education. As mentioned in Section II, satellite communication has raised a question about the theory of learning we believe in. Whatever model of learning our basic course structure proposes, once we accept this new media, it puts forward and begins to implement its own model : learning by guidance.

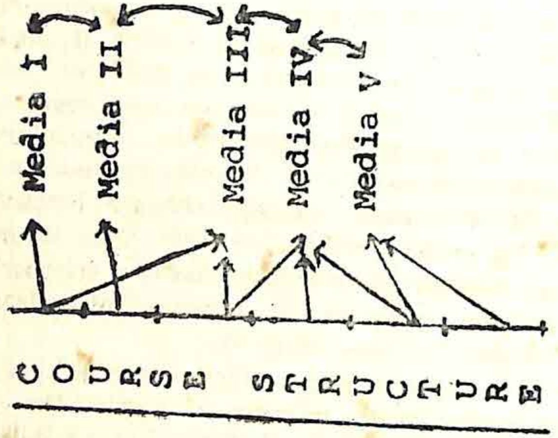
The position of the tutor is largely changed because of the use of media. The media could remove them from an interactive role. "It could redefine their role from that of a 'teacher' to that of a 'course designer', 'programmer' or manager of student-selected information services." (Potter, 1981 : 4).

As we said at the beginning, interaction in education does not happen simply because of the presence of media. The educators have to learn that facilitation of interaction is a skill. And to acquire this skill, we must have an understanding of the process of communication and a clear understanding of the media technology. The introduction of media has changed the earlier simplistic design of a distance course. We now need coordinators, local managers, demonstrators and this has made the design of a distance course a unique process.

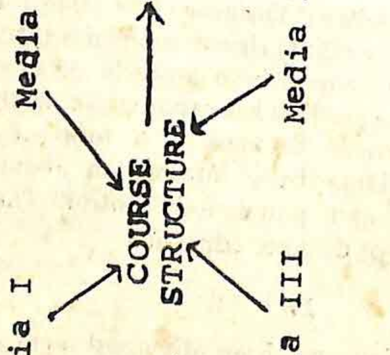
In his paper, "Satellite-based Distance Education : Problems and Solutions", Geoff Potter (1981) rightly complains that "mass" communication devices have always been channels of communication for the elite. Now, the satellite has explored for us the possibility of using these devices for masses. A form of distance education could be providing basic information about literary, health care, agriculture and population control. This would naturally widen the scope of distance education.

### IV

In the last 3 sections, we have discussed some aspects of various media that will help us decide the particular value of each medium in a given educational set up. As we said earlier, the main problem is not how many media should we use but how we integrate the media with the course structure. Thus, instead of aiming at 'Multi-media Approach'', we need to aim at 'Integrated Media Approach'. An Integrated Approach takes into account the possible value and suitability of each medium and links each new medium with the existing media. Following diagrams illustrate the difference between these two approaches.



Integrated Approach

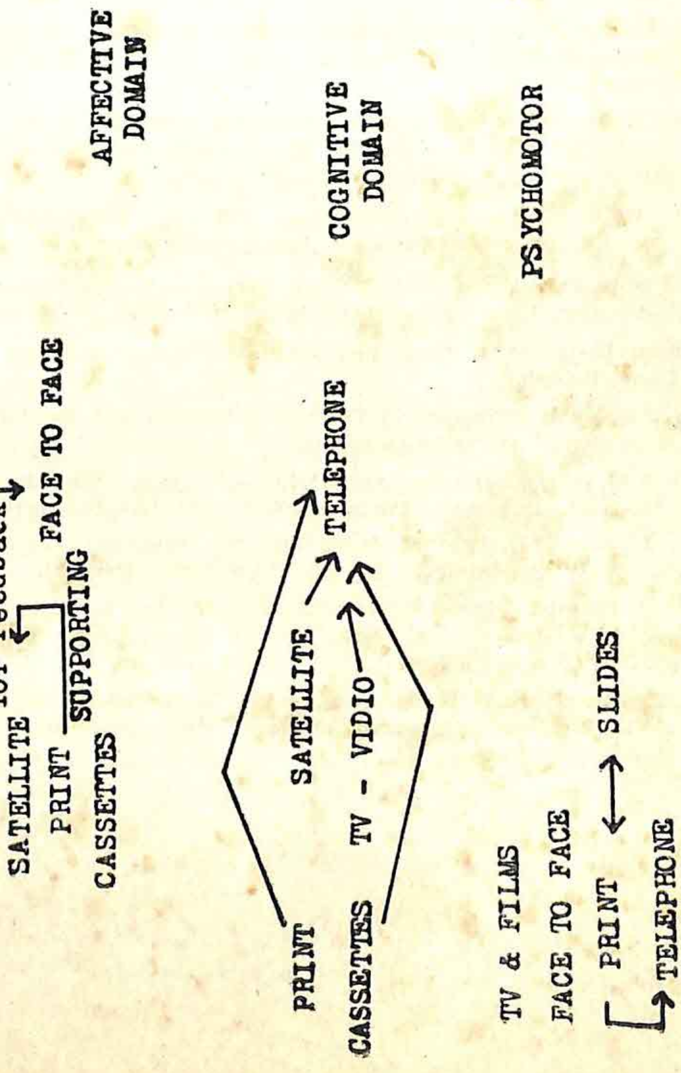


Multi-media Approach

**Integrated Approach**

As an illustration of the Intergrated Approach, I have given below a possible model for a Distance Education set-up. The model is meant for 3 different domains in a single course : affective, cognitive and psychomotor. Obviously, the given model is just an illustration and guideline. A model quite different from the one given can be worked out and may prove effective.

The diagram given below stands as the conclusion of this paper as it illustrates the need for an Integrated Media Approach as well as suggests a possible way of leading towards the Approach.



Size of the typeface suggests importance given to the particular medium. Arrows indicate the relationships and absence of arrows indicates that the media are used for mutually exclusive purposes.

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## 22

# Audio–Visual Aids in Distance Education

R. AMRITAVALLI*

In educational planning today, a move towards an 'open' educational system is simultaneous with a proposal to induct the 'new media' into the teaching programme. Newly-initiated distance educational programmes thus tend to begin with a series of consultations between educationists and professional media personnel; and as an educationist who has been using the new media for some years, I have had the opportunity to participate in a few such meetings. Two divergent themes recur on these occasions. There are those who stress the years of careful planning that must go into the production of educational software: into the selection and sequencing of subject matter, into the choice of mode of presentation ('format'), and into the identification or evolution of cohesive teams of subject experts, script writers and producers. And there are those for whom these are non-issues, 'straw men' set up to impede or delay the inauguration of an educational enterprise for which all the software is, in some sense, already available, and whose launching is contingent only on the availability of other resources, e.g. time (studio-recording time, broadcast time), equipment (for recording, reception) and personnel, i.e. teachers 'suited' to the audio-visual medium. Very little is achieved at these consultative meetings by way of consensus, or even a change in perspective. Expediency usually emerges the winner

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Intriguingly, the same two divergent themes may be detected in reports of projects around the world, which have used the new media for distance education. (Since these are reports *after* the event, the differences will be seen to occur *between* projects rather than within projects). Intriguingly (again), there is a familiar failure of articulation of the premises about media and education which must underlie the opposing themes:

(i) the media provide a technological tool for substituting for, or extending, the 'reach' of the traditional educational system (chalk-and-talk, book-and-exam.).

(ii) the media provide the opportunity and the occasion for the induction of educational reform (education as experience, learning as opposed to teaching, and so on).

Obviously, the choice of premise will affect the planning, the software and the outcome of the educational project. I shall illustrate this by describing a few such projects, placing them in two major categories, which we may conveniently label as the 'instrumental' and the 'reformist' [according to whether they choose premise (i) or (ii)].

It is not my purpose to make a value judgement, and suggest that the choice of premise may be guided by its (perceived) 'intrinsic' worth. This choice will be guided, rather, by factors inherent in the distance education programme as we shall see below. What is imperative is to determine, at the outset of a distance education programme, which of the two premises about media is best suited to that particular programme. A number of decisions which must be made fairly early will hinge on this choice —crucial decisions about hardware, about studio facilities, and about hiring. We can show how some education programmes 'drift' between the premises with a consequent reallocation of budgets and priorities; such 'drift' is a luxury that a developing country can ill afford.

Finally, I shall argue that the 'instrumental' and 'reformist' categories set-up here serve to provide a useful perspective on some fairly recently launched distance education programmes in the country e.g. the UGC's *Countrywide Classroom*, the Andhra Pradesh *Open University*, and the A.P. Board of Intermediate Education's *Open Education Programme*. There are differences of aim audience, content and method which dictate the classification of these distance education programmes into different categories; unhappily, a failure to recognize these differences has led to a scramble by the concerned agencies for identical (or at least comparable) facilities and resources.

I shall include in my study the following distance education programmes:

(i) The Radio and Television Universities of the Division of Postgraduate Extension Studies, University of New South Wales, Australia.

(ii) The distance training package of the Institute of Chartered Accountants in England and Wales.

(iii) The Open University, Britain.

I shall also include (iv) below, which, though not (strictly, speaking) part of a distance education programme, illustrates rather well the potential of the audio-visual medium in such programmes.

(iv) An Interdisciplinary Arts Course at the Pennsylvania State University, U.S.A.

The Radio and Television Universities of the Division of Postgraduate Extension Studies, University of New South Wales, began in 1961 and 1966 respectively. These universities make a frankly instrumental use of the media, as may be seen from their avowed purpose:

> ......to transmit *lectures* to listeners in their homes, the *broadcast lectures* being supplemented by printed notes and diagrams.

D. Broadbent (1982), p. 123; emphasis added. Elsewhere, their basis of operation is stated to be 'if the people won't come to our lectures, then our lectures must come to the people.' The fifty-minute radio/TV lectures are accompanied by printed notes substituting for the blackboard, varying in length from 5 to 27 pages per lecture. Typical course units consist of media combinations, e.g. 4 radio lectures + 1 T.V. lecture-demonstration + 1 live discussion/seminar at the University (OR open-line telephone talk-back session); a graduate course may have five such units.

The technology-as-a-tool theme is reinforced by the parallel drawn between the Radio and T.V. Universities and what was probably 'the first attempt at organized "distance education", in the mid-nineteenth century..., the Sir Issac Pitman Correspondence School of London,' which had a study programme using postcards giving messages from the Bible, to be coded by the student in the new shorthand, and returned for assessment:

> the start of this distance education programme coincided with the introduction of the British penny-post; in other words it was made possible only by the development of a new medium of communication made possible by, in its turn, the technology of transportation—the railways.

Distance education programmes which make an instrumental use of the new media have some distinguishing properties. Principally, they are *distance* education rather than truly '*open*' education programmes: that is, they have a clearly defined target audience, who enrol (pay fees) for specified courses and work towards specific degrees. Not only is there no incentive to make the software of more general interest, or of broader relevance; quite often the technology chosen limits the audience allowing access only to the target. The postcards of Sir Issac Pitman could obviously benefit few others than the registered shorthand student (and perhaps the odd inquisitive postman). In the Australian case, the University of New South Wales did not (perhaps could not) use the existing broadcasting facilities, setting up instead the first University-owned and controlled broadcasting station in Australia (quite a few others are reported to have followed suit). The interesting fact is that the bandwidth allotted to this station placed it outside the tuning range of an ordinary receiver: a modification needed to be made to the set to receive the broadcasts. (The University initially provided modified sets on hire; later these sets became available on the market).

From these features of a targetted, enrolled audience and a formal teaching package, must inevitably follow other features characteristic of distance education programmes based on premise (i) e.g. the establishment of a network of extension centres or study centres, and the availability of teaching materials on cassette (a tape-correspondence service) to groups of interested students.

Two other features of the Australian enterprise are of interest. The first is their special use of the television studio. The major closed circuit TV studio is equipped with two colour cameras, a telecine chain incorporating a camera control unit, facilities for audio and vision mixing, two-inch transverse scan videotape recorders and several helical scan videotape and cassette recorders. Audio-visual aids include graphics of various kinds, chalk-boards, magnetic boards, 8mm filmloops and photographic enlargements. The telecine equipment is used for the presentation of 35mm slides and 16mm film. Other aids include a caption roller, microscope projector, near projection equipment, models, mock-ups etc. Facilities are also available for 16mm animation. Broadbent sets down with great clarity the mode of operation of an instrumentally-oriented video studio:

> When mass media techniques and equipment are to be directed to relatively small groups of postgraduate extension students the cost of production and presentation is the essence of the problem. For this and for educational reasons, a lecturer-controlled television studio was designed for the broadcast programmes. In the postgraduate area the best person to control what the student sees and hears is the lecturer himself, just as the lecturer does when he controls a slide projector in a lecture theatre. He does not try to conceal the fact that he is controlling the picture and sound, and in fact simply uses the radio and television channel as an audio and video aid to explain his points.
>
> In this special studio there are no cameramen, and in the early days no producer either; from a console the lecturer

himself punched up the picture he wanted to show and about which he was talking from one of the outputs of two cameras, a slide projector or a cine-projector. The layout of the console and associated equipment enable the instructor to select video and audio from five sources, and to record his selection on videotape. The console includes three miniature monitors, which show the video from each of the two cameras and from the telecine chain, a text generator or a computer. One camera is normally fixed focussed on to a blackboard or perhaps the lecturer's face; the other camera, which is fitted with a motorized zoom lens controlled by the lecturer, focuses on to a part of the console top on which demonstrations may be shown or diagrams drawn. The lecturer makes up his programme as if he were before a normal class, using a wide selection of visual aids. With this arrangement it has been found that production costs are low, and flexibility of operation is considerable, when compared with normal television production methods.

The system works well but usually it is so organised that a staff producer, who is familiar with the material of the lecture, assists in positioning the displays, in operating the zoom lens of the overhead camera, and in generally organizing the production.

A further development of the lecturer-controlled console was introduced in 1979 for the many computer programming courses offered. The display was restricted to the video output of a computer, with an audio accompaniment in the form of the lecturer's voice over. While the student never sees the 'talking head' of the lecturer, no studio or cameras are required. The TV signal is simply taken from the video display terminal connected to the computer.

I have quoted Broadbent at some length, because the Australian use of the TV studio seems peculiarly apt for the Indian situation today. Much of the indigenously produced educational programming currently available would appear to be suitable for production at a lecturer-controlled television studio. This is understandable—even predictable—given the pressure for quantity, the lack of producers trained, or experienced, or even interested, in educational programming, and the inexperience with the medium of the highly qualified subject experts. In the circumstances, we might have done better to recognize the frankly didactic nature of the programmes expected to be produced, and planned for producer-less television production.

This, however, raises an important issue. The lecturer-controlled mode of television programme production implicitly relegates TV to the role of a teaching aid—a glorified, many-in-one aid, but a teaching aid nevertheless. Is this a legitimate use of the medium, or is it an under-(or mis-) utilization of it? Can the new media be content with delivering the old substance, or do they intrinsically demand a different style of education? In other words —do educationists have a choice at all between the premises (i) and (ii) set out at the beginning of this paper?

We need to raise this issue, more so because it appears to have been raised—in some measure and in a preliminary sort of way— by the Australians themselves. Thus Broadbent writes:

> It quickly became evident that the new medium had its own special advantages and special limitations, and a new technique was required for successful transfer of ideas from lecturer to listeners. Many of the speakers were helped by the fact that they had taken part in radio and television broadcasts, but all had to adapt themselves, and their material, to the new medium. While most of the lectures consist of material presented by a single speaker, some take the form of a discussion between two speakers, with one interviewing the other, or both jointly developing a theme. A number of panel discussions have also been used, groups of from three to five experts in some field discussing a topic.

The next case of a distance education programme manifests a similarly late recognition of the demands of a new medium. In this case, the solution was to redesign the teaching package, to make a more cost-effective use of television.

The Institute of Chartered Accountants in England and Wales has, since 1975, been developing a range of package training materials, to be used by qualified accountants and their staff for trainees required to pass the Institute's examination. As in the Australian case, education-at-a-distance was necessitated by the failure of the learners to go to the teacher: the Institute found that only ten per cent of its members attended any of its conventional courses. As in the Australian case (again), the Institute initially decided on a purely instrumental use of video:

> ......the use of video enabled a good lecturer to be seen and heard all over the country without having to repeat his performance...... [M. Tyrell and R. Davies (1980)].

As first, therefore, the training package consisted mainly of the videos. However, the Institute soon moved away from its commitment to a purely instrumental use of video (as we shall see below). The result was an evolution of the training package from mainly-video-with supplementary (printed) "Leader's Guides" (for inexperienced course presenters), into a package wherein the Leader's Guide emerged as:

> "the key document for any of the packages produced by the Institute, whether supported by video, audio or just print material alone" ......although "a few sophisticated training departments want just the video films.
>
> "The original concept of a video package had been to encapsulate a lecture. Very rapidly it was realised that the expense of the medium and the boredom and talking heads required a stronger reason for video use. Such justification was found for practical auditing when it was necessary to take trainees 'out' of the classroom to see the workdone on client premises. The video lectures were then replaced by talk outlines in the Leader's Guide, together with overhead projector slides. The production of non-video packages gave greater emphasis to the Leader's Guide...... [M. Tyrell and R. Davies (1980)].

The 'instrumental' approach to the use of the new media in education is perhaps the original approach (and therefore, a widespread one). Richard Hooper, formerly Senior Producer, BBC Open University Productions, writes about what he calls the 'media justification' problem.

> ......the 1950s justification of the use of the new media has in later years been the very cause of their decline. The closed-circuit systems at universities like Pennsylvania State were set up specifically to distribute lectures to more students at less cost. Existing methods of teaching and learning were taken as given. These methods were stretched by use of new technologies—stretched but not changed.

Hooper lists two other contributory factors for the still peripheral role of the media in higher education, 'media fragmentation' and 'media status':

> There has been a continuing war between the various new media. . . . In individual universities the television service, audio-visual centre and language labs are all busy practising media apartheid.
>
> Another problem...has been the status of the media people. The television producer, for example has tended to be regarded by the academic staff as a technician. He is consulted, if at all, after the course content and objectives have been selected by the academic staff.

With these preliminaries, we may turn to distance education programmes adopting premise (ii). The obvious choice is the Open University of Britain. But we may first profitably acquaint ourselves with a course at the Pennsylvania State University, USA—a course whose interest for us lies not merely in its 'reformist' approach, but also in the milieu of its origin, when we recall that this University has a history of using closed circuit television in a purely instrumental manner.

This basic Interdisciplinary Arts course is described by M.C. Mills (1980), as ordinarily encompassing film, theatre, painting, print-making, photography, sculpture, music, opera, dance and architecture. Students are expected to understand the elements in a work of art that create its effect, to evaluate unknown works of art by learning to relate them to previous experience, and to relate elements across various arts that have similar cognitive values and affects:

> Normally, students enrolled in a course of this kind must be brought into a close confrontation with the works being

> studied. Although field trips are an integral component of the course, they are often too costly, inconvenient, or unavailable at the right time to provide all the study examples needed . . . .(thus) the course would not exist without the videocassettes and tapes, the audio-cassettes, tapes and records, the 35mm slides, and the 16mm films and their accompanying video, projection and stereo equipments. [M.C. Mills (1980)].

What is noteworthy here is that a course design has been evolved for the arts, which is predicated on the availability of the media. Normally, the advantages and the centrality of the media are better recognized by science courses, for which the benefits of video (for example) are more easily perceived—such as control of time (show/fast motion) and viewpoint (micro-macro), and accessibility (everyone can have a ringside seat at the laboratory experiment, provided there are enough viewing sets to go round). Anthony Bates tells us that at the Open University in Britain:

> Science alone had argued from the beginning that television was essential for its foundation course, and had advised students not to take the course if they did not have access to television. 'Science-based' courses (which—included mathematics, as well as technology) were awarded a greater allowance of television programmes ......

In the other Foundation Courses, Bates informs us :

> academics often had to write extensive and detailed drafts of correspondence tests before they were able to specify precisely what they wanted to teach. Only then was it possible to decide on the contents of the television or radio programme. This meant that the major conceptual ideas were contained in the correspondence text, and the television and radio programmes merely reinforced or discussed these concepts.

Bates argues convincingly that better results would be achieved if the programmes and the correspondence meterial were developed at the same time.

Nevertheless alone among the Distance Education Programmes considered here, the Open University takes is its point of departure a philosophy of media usage in distance education. Consequently it has ensured that its structures and facilities evolve out of this philosophy. Thus here too we find courses which could not exist without media involvement e.g. war and society (based on archive film material), The History Design of Architecture, Language and Learning. "In the Open University", we are told "the decision to use broadcasting preceded decisions regarding the content of most courses."

To circumvent the problem which had beset earlier attempts at using media in education, the idea was evolved of a course team, with a tripartite membership of academic staff, BBC producers and educational technologists ; significantly producers are academics recruited and trained by the BBC. "A mathematics producer, for example, who has no real fluency in mathematics, would tend to be distrusted by the academics. Such distrust has been a major reason for continuing 'tissue rejection' of the new media", (Hooper). The aim is not to let the media do all the teaching, but to achieve an optimal use of newer and older methods of teaching—audio-visual print and face-to-face.

Perhaps the most reassuring aspect of the Open University's approach to media is that, along with the results (in terms, e.g. of course design and software) of a consciously 'reformist' policy, they seem to desire, as a bonus almost, the results one would expect from an 'instrumental' programme. More than one reference may thus be found to the role that broadcasting plays in building up 'the corporate feeling of a University'.

> Broadcasting is also essential to break down the isolation of the student. Many students never attend tutorials (at the study centres, RA)...many of them value the opportunity to see and hear and their professors, and...seeing them—often nervous and awkward—before the television camera makes more human and personal what would otherwise be a very remote and impersonal teaching situation...For instance, there is a strong feeling in the mathematics faculty that without the support given by television the dropout rate would be much higher. The assumption is that the television programmes assist the students' understanding and lead to

> quicker assimilation of material, and, at the same time, give students the psychological boost of feeling that they belong to an organization with real people, however remote or distant these may be physically. (A. Bates).

This is strong recommendation indeed, coming as it does from a premier user of the media with a 'reformist' orientation, for a frankly 'instrumental' utilization of audio-visual aids in distance education – in the preliminary stages, at least. I must conclude as I began, by stressing that the virtue is not in the choice of one orientation over the other, but in recognizing the choice and making a clear commitment to one of the alternatives. There is time yet for us to decide on an instrumentalist use of the media for distance education courses which have a prescribed syllabus and a set of enrolled students working towards a formal degree (etc.). This use of the media in such courses will allow us to see its use in instances such as the *Countrywide Classroom* in better perspective. In the latter case, the audience, is truely 'open'; there is no set syllabus; and none of the policy statements I am familiar with go beyond setting up the general, broad goals characteristic of a 'liberal' education. Here then, we have the opportunity—indeed, the responsibility—of setting education into its broader context: of indicating more clearly and creatively the interdependence more of many of the spheres of our knowledge, the excitement of discovery, the logic of science, the recycling of concepts...The challenge of making the *Countrywide Classroom* live up to its name is a large one. The merest acquaintance with the experience of the Open University shows that even when the goals are clearly articulated and the academic/administrative structures set up with the greatest care, the results may yet fall short of expectations. In the absence of some elementary preliminary thought and planning, then, there is little to hope for from our UGC programme, once its novelty wears off. We shall have failed very badly in our tasks if a satellite, which is the outcome of some of the best in our systems of knowledge, seems only to reinforce the current narrow, compartmentalized, and career-oriented approach to knowledge.

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## 23

# Satellites in Promotion of Distance Education

T. V. PAVATE*

### Introduction

Educational philosophy depends on (i) the nature of the good life to which education should lead, (ii) the nature of man himself because it is the man we are educating, (iii) the nature of society, because education is a social process, and (iv) the nature of ultimate reality. Efforts are continuously being made by educationists, politicians, philanthropists and the enlightened public to achieve the above noted goals. It is to be noted that so far marginal results have been achieved leaving behind tremendous work which is yet to be tackled. Our country is geographically big, multilingual, multireligious and economically poor. Conventional methods have yielded minimum results for want of trained human input, infrastructural facilities to reach the far flung villages of our country. The population of 700 million makes the problem further complicated. As a nation, it is the duty of all educated citizens to see that every Indian without distinction of caste, creed or religion and place of residence should be given the best of education to enrich the country. Modern technologies, and space research are yielding very good results in imparting some awakening amongst the mass of the population.

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## Methodology

### Space Research Technology

It all started in a big way after U.S.S.R. put space satellite 'SPUTNIK' into the earth orbit in 1957. During 1960s U.S.A. embarked on a space programme that covered various activities which resulted in Apollo Eleven—Man's first Moon landing in 1969. During 1970s efforts were made to make use of space research and its benefits for the problems on Earth to protect the quality of environment and improvement of life in general for all mankind. One of the first uses of space technology for mankind was to improve weather forecasting and international communications. Further, remote sensing satellites have added a new dimension to identification, evaluation and exploitation of natural resources. A new era has started with satellites and their application in various human activities. National and International Television networks have revolutionised in recent years which enable to telecast live programmes all over the world. Space organisations in India deserve all praise for their launching of satellite INSAT 1B in geostationary orbit which has enabled the country to be integrated by national T.V. network.

### Educational Programmes through Space

Man has continuously engaged throughout human history to educate and train his fellow beings in the pursuit of happiness and excellence. But constraints were always faced because of limitations. In the wake of radio communication during 1930s, and availability of wireless sets to the common man in 1940s, concept of distance education began to take shape. Lectures and special lessons were being broadcasted regularly for the benefit of schools and colleges. With the advent of Television and satellite communication, it has become possible to telecast live programmes all over the country through satellites such as INSAT 1 B. Of course University Grants Commission (UGC) has started telecasting special programmes of lectures for the benefit of viewers during the day. Some of the programmes have made good impression on the viewers. However, the whole problem needs to be given top priority regarding programmes, their impact on the audience, feedback and audience selection, wide publicity, experts' participation and facility for televising in regional languages. Special channel utilisation and interaction with various universities will have to be looked into. Special courses to be given through the mass media so that educational curricula would emerge and would lead to a programmed university degree or diploma.

### Distance Education

With the progress made in the area of communication satellites both at the national and international levels, it has been possible to operationalise the concept of distance education. Indian satellite INSAT 1 B which is already in orbit is enabling to make a beginning in the new venture. Next satellite INSAT 1 C which is likely to be in the orbit during next one year so, would facilitate further to boost this new venture. A special channel may be earmarked for distance education.

### Organisation and Implementation

Once, the objectives of distance education have been accepted and satellite communication has been made available, it becomes mandatory for the organisers to implement the programme as a mission oriented project. For this purpose proper organisational set up is required at the highest level. It is an interdisciplinary activity. A national board has to be constituted so that all facets of programmes will be interlinked to achieve maximum efficiency. Keeping in view the objectives, a high power National Board for Distance Education has to be formed. It may have members from the following organisations.

| | |
|---|---|
| (1) Chairman | From Deptt. of Education, Ministry of Human Resource Development, Govt. of India |
| (2) Member | Secondary Education, Adult Education |

| | |
|---|---|
| (3) Member | U.G.C. |
| (4) Member | Ministry for Information and Broadcasting |
| (5) Member | Indian Space Research Organisation. Deptt. of Space |
| (6) Member | Department of Science and Technology |
| (7) Member | Ministry of Agriculture and Rural Development |
| (8) Members | Selected audience representation : |
| | (i) City area |
| | (ii) Rural area |
| (9) Member | Ministry of Finance |
| (10) Member | T.V. Manufacturers' Association |
| (11) Member Secretary | Full time—Educationist with a vision for new ideas |

It is required to have state level and district level organisations to implement the programme successfully.

State level committee may consist of :

(1) Chief Secretary
(2) Education Secretary
(3) Revenue and Agriculture Secretary
(4) Local University Vice Chancellor (s)
(5) Director Education Authorities.

The task force at district and village level should consist of officials as well as representatives from social and cultural groups of the area. The main functions of the task force would be to :

(i) organise viewer groups,
(ii) regular participation,
(iii) feedback, and
(iv) maintaining proper functioning of the system.

## Programme Preparation

As the task involved is a gigantic one, it needs careful thought for suitable programme formulation and coherent sequential televising of the programmes. Wide publicity and feedback monitoring are essential facets of the programme preparation and updating the information.

Programme preparation will have the following activities to be taken care of :

(1) identification of subject experts,
(2) suitable studies,
(3) infrastructural development for suitable programme preparation,
(4) Language editing, and
(5) Language experts.

All these activities need huge finances and the activity is of national importance and fundamental nature. Suitable allotment of funds can be made during the plan period and the programme can be executed. Considering the national literacy percentage, it may be worthwhile to support at least at the rate of one rupee per head/year for the programme which will revolutionalise the national image both with respect to education and general awareness. To mobilise about 30 to 35 crores of rupees per year may not pose a serious problem if all concerned departments could pool the resources including sponsored programmes. Working plan can be evolved with suitable consultations.

## Conclusion

Considering the potentialities of the distance education, with satellite communication, it is imperative that the Government takes necessary steps to implement it immediately.

(1) National Board may be formed forthwith and some mission oriented activities may be initiated.
(2) UGC may be encouraged substantially to reorganise

their programmes so as to cater objective oriented course programmes for different levels audience.

(3) Immediate steps be taken to increase the number of facilities and centres where programmes can be prepared with the help of experts in different languages.

[The author acknowledges with thanks the encouragement given by the Head, CSRE in preparation of this paper.]

## 24

# Conventional and Modern Media in Distance Education

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As the idea of distance education originated in the present century only, it can be considered quite recent. However it is catching on all over the world to serve the clientele of adult and mature students in the ways that suit them. This off-campus educational programme can be an effective answer to the tremendous pressure created by the problems of numbers in some of the highly populated countries. Educators, on the look out for alternative models which can assist the formal education system to fulfil the rising social expectations, to ensure access to higher education and to expediate the process of increasing the proportion of educated and trained manpower, have settled upon distance education, as an important non-formal method of learning. Through it, they hope to reduce physical, social and psychological distance for all those who seek education or higher education, but have either missed the opportunity of education altogether or would like to undergo training and refresher courses only on a spare-time basis at their own pace and according to their convenience, from wherever they are living. For the employed adults and those who want to study for its own sake, this open learning programme whose important components are continuing, education non-varsity education and short duration is the only alternative to the formal education system. The latter requires full time attendance and adherence to rigid rules and regulations causing burden to the already strained economic resources of the people of the third world countries.

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## Role of Media in Distance Education

To be relevant, acceptable and long lasting, alternative system of the formal education, it has to be well designed, effective and affordable. Moreover, its speed has to be accelerated to provide education to the students all over the country through an effective communication network. A variety of subjects of high utility value covered both for vocational training and higher education make effective media involvement a must for distance education. Media can be effectively involved in both curricular and enrichment areas. Coverage of students of wide range of educational and social backgrounds and ages, aspirations, learning styles, environments and convenience under distance education make the use of media very crucial. It can help adapt education to complex individual needs, wishes and conditions. The verbal explanations cater to the groups of learners having homogeneity. The teacher, the pillar of the present educational system is missing in distance edacation making the use of audiovisual aids very relevant. In fact, distance education can be called essentially an audio-visual programme. The audio-visual aids can play a major role in making distance education, to begin with, a possible reality, for a large number of both illiterate and literate masses in the far flung interior villages as well as in the urban areas in the country. It can improve the quality of education at a comparative or a lower cost than that of the formal system.

Media also helps create a more dynamic learning environment in distance education. The diversification of objectives, content and form is possible through the communication media. The greater individualised and idependent instruction in distance education to overcome the barriers of space and time, in a decentralised learning environment makes use of audio-visual aids imperative. In distance education, there is a shift from spoken word to an instructional methodology dependent on communication media.

The major objective of any media can be to help maximum learners to learn effectively : in other words to comprehend and retain knowledge. This hints at mass communication approach. The greatest constraint of the distance education can be its alarmingly high rate of drop-outs compared to the conventional education. At times it is accorded second class status. The demand for distance education can be increased in future and its status raised through the effective use of communication media which allow far greater variety and flexibility of learning and teaching techniques. Distance education can employ both small media and advanced technologies. In a developing country like ours anything and everything must be seized to promote education.

## Media for Distance Education

### A. Conventional

Print materials—structured lectures, pamphlets, handbooks, manuals and books.

### B. Modern (Involving use of new communication technologies)

#### (i) Teachermade and self-operated*

- * Slides,synchronized slides and tapes, slide commentary workbooks;
- * Transparencies;
- * Audio cassettes; and
- * Telephone teaching.

#### (ii) Academic and Technical Expertmade

- * Radio broadcasts, motion pictures, televised broadcasts;
- * Video cassettes;
- * Electronic books; and

* Self-structured programmed materials aided by computers, if possible.

These are used at home or in the study centres in various parts of the country to have face to face contact with tutors to clear doubts, to provide additional information and to receive guidance. Singh (1986) quotes the various media used for distance education in different countries of the world : China—Print materials, radio, TV; Korea-Radio, TV; audio cassettes, video cassettes; Spain-Radio, print materials, audio cassettes Japan—TV. audio cassettes, video cassettes, print materials; UK—TV, Video cassettes; Canada—Telephone, radio, TV (satellite transmission); India—Print materials, radio, TV, audio cassettes.

All meida are educationally sound. Only their selection for distance education should be made on the basis of their effectiveness to serve at a reasonable price in a specific socio-economic and cultural situation. Some would be excellent for the individualised approach while others will provide mass communication approach. Print matterials, slides, transparencies, and audio cassettes have the advantage of being tailor-made for the specific groups with no or little outside help from experts (photographer and artist). Expensive and elaborate studio settings, editing facilities, sound proofing and air conditioning, imported equipment, technical expertise at almost all the stages and lengthy preparation are eliminated. The clientele of distance education of middle SES can use them with the help of regional study centre as they involve the use of recorders and projectors which can be operated easily.

The printed book is still the most innovative storage and retrieval information system. It will continue to be the dominant component in distance education services in the developing countries. When print materials are easy to produce, duplicate, transport and use, and involve the use of literacy and no matter how judiciously supplemented with graphics—tables, graphs, diagrams, maps, line drawings, illustrations and photographs are still abstract. So they will have to adopt styles, which besides motivating the distant learners, will also fit into the knowledge structure of many heterogenous students. A sound national book policy will encourage authorship, making good literature available at moderate prices. This in turn will promote development of print media, fostering reading habits and contribute to the success of distance education.

Our efforts to take education to all the people requires use of new communication technologies. Motion pictures, video films and TV broadcasts can provide enormous range and type of visual resources to the teacher for the descriptive materials. They can also help overcome the problem of abstractness and barriers of time. They can also be utilized at the convenience of the clientele of distance education. Educational technology and modern development in information communication networks can play a vital role in distance education. Santhanam (1985) states that the American Satellite ATS-F utilised by SITE project to transmit educational programmes to 5000 villages was rated a great success. Now India has a satellite—INSAT 1B which enables learners in all parts of the country to view educational, developmental, social and cultural TV programmes with the help of low power local transmitters which are being installed in towns with a population of 100 thousand. Deshmukh (1985) says 70 per cent population of India is covered by these low and high power relay transmitters of televison programmes. Further satellites in the INSAT series have been planned as major national programmes. At present, a beginning is made by the University Grants Commission (UGC) by relaying educational programmes on an daily hourly basis. The mass media centres established initially for developmental communication (Gujarat University, Jamia Millia, Pune University etc.) can help create a learning environment for a systematically built information communication network.

Radio, telephone and television networks and computers have provided excellent distance education opportunities for increasing the number of educated persons and raising the quality of education by breaking the space barriers and coping up with the explosion of knowledge in other countries. Through them, the availabiility and quality of human resources are raised considerably. The computers have created wonders, specially by storing information in unbelievably small volume, processing it and giving it out in record time. Santhanam (1985) writes that paperless electronic books, which promise to be common in West before the end of this decade, have less volume, lower cost, freedom from storage maintenance problems and additional voice output facility for the use of blind. They are already becoming popular as teaching-learning tools for distance education in the West. The committee headed by Prof.G. Ram Reddy, Vice Chancellor, Osmania University (1982) which had recommended the establishment of an open university in Andhra Pradesh, believes that there is a growing awareness of updating and supplementing correspondence materials with new educational technologies.

However the role of the new communication media based on both the technical hardware and software need to be evaluated against Indian conditions as major constraints related to their management and financing are likely to impede the progress of distance education.

## Constraints in the Use of Communication Media

1. Language-wise complexity, of the audience, especially in the absence of multi-channel facility; example : The students of 800 colleges with subsidised TV sets cannot understand either. English or Hindi adequately. Inadequate and difficult production of language-free TV programmes.

2. Inadequate aquaintance with TV or even radio as educational communication technologies on part of the persons in charge of distance education; inadequate institutional facilities to acquaint them. In India, only 6 institutes, out of 30 relay radio talks for the distance education and TV support is almost nil.

3. Less coverage of the contents of education covered by the radio and TV media. The programmes specially on TV are of very general nature and not student-based. In an effort, to make them applicable to masses, they are reduced to the most elementary levels.

4. Impoverished resources for the development and expansion of TV and computer based communication technologies. India at present buys high technology from the developed world in the fields of communication technologies and micro-electronics. The maintenance and repair facilities are simply non-existent in small cities, towns and villages. This is so much in contrast to the situation in open universities in developed countries like UK. Hodges (1984) writes, "The Computer Board for Universities and Research Councils predicts that the British University students of 1992 will have powerful personal computers that can be plugged

into a network in the study, bedroom or in the library and will use computers for sending and receiving electronic letters, for writing essays and answering tests and for choosing a library book."

5. Low socio-economic levels of the Indian students of distance education to afford audio and video cassettes.

6. Small number of students having a regular access to the radio and TV broadcasts.

7. Inability of the educational institutions to meet the financial liabilities for use of the new technologies, specially video production and computer technology.

8. Technical and expensive process of preparing excellent quality video films. This is observed through my personal experience as a team member of TV Teaching project funded by ISRO, engaged at present in production video films for urban and rural adolescent girls and women. The video production centres in India are too few. The small audio and video prouction units in each university may burden already overstrained economy of our country.

9. SITE experiment has shown that while it was possible to reach a large number of people in the remote areas, it also indicated that this advanced communication system demanded advanced software facilities, trained personnel and competent utility and monitoring services hinting at a huge sum of expenditure.

10. Large size complexity of the background of the clientele to be covered under distance education. The masses include decentralized, tribal, rural and illiterate adult persons with apathy towards education and any new communication technology.

11. Inability of the learners and teachers to take to new methods of communication as Swaminathan (1985) says, "Beaming educational broadcasts is one thing, creating an impact of these broadcasts on education is another."

## Suggestion to Overcome the Constraints

Like many innovative approaches, distance edducation also may not register much success with raising quality of education or coverage of learners unless steps as suggested below are taken to overcome these constraints in the use of new communication technologies for distance education.

1. A survey to ascertain the abilities and experience of the students of distance education for suitable preparation of audio-visual aids. Without the development of appopriate learning and materials based on the theories of learning and perception, the hardware alone cannot help distance education to reach its goal. Learning materials of country-wide value need not to be developed.

2. Teams of first rate media persons and academic experts for technology based communication media to locate and evaluate suitable materials and give scholarly treatment for depth and breadth of knowledge and to produce a harmonious picture.

3. Encouragement to low cost production techniques; example : Slides of expensive field processes first and later transfering them to video cassettes compared to straight video production will be cost effective. The new audio-visuals can play a highly significant role in distance education only if the country becomes self reliant and self supporting rearding the indigenous technologies.

4. Academic staff's access to training facility such as script writing, production and screening of video cassettes of developed countries.

5. If possible, gradual decentralized autonomous radio and TV transmissions by the open universities like the open university in Nigeria.

6. Encouragement to community TV viewing and both community and individual radio listening for larger coverage of clientele.

7. Encouragement to both the student and the teachers who are used to conventional media and methods to master some new skills involved in the use of new communication technologies.

It is hoped that India will soon overcome these problems, related to the electronic media to be able to take full advantage to their great audience appeal, capacity to record maximum information in a given space and facilities of easy transport, storage and long life. Basically, learning in distance education as in other approaches, takes place through various senses and stimuli. No one aid can be recommended, for all types of learning and all types of learners. A variety of both conventional and technology based audio-visual aids will help distance education. The audio-visual aid which cost less, are easily available, are easy to prepare, carry, use and store and which bring about the greatest clarity in learning will have to be given priority. One has to be realistic to which is immediately achievable and which can be achieved in many years to come. The despairing situation, arising out of the reduced use of conventional low cost media and nonavailability of modern electronic communication technology need be averted for the genuine growth of distance education. India still being a developing country, a mixture of traditional and sophisticated media can serve the instructional purpose of distance education.

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# Economics of Higher Education

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Even before Independence, the Indian leaders and people had realised that in the transformation of the Indian economy in particular, and the society in general, higher education would have to play a determining role. With freedom, fresh vistas were opened for developing human potential and expertise which could be used in a progressive realisation of economic goals and social objectives. The Government of India, in coordination with the State Governments, was anxious to initiate immediate steps not only for a radical reform of the entire higher educational system built during the British period, but also for large scale expansion that would bring higher educational facilities within the reach of majority of youth who had long been denied this opportunity.

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Since then, the Government has vastly increased the proportion of resources devoted to that sector of education.

I

## Current Trends

Continuous expansion of higher education has wide-range financial implications. It requires large financial resources of both kinds—fixed as well as working capitals—in order to accommodate the rising student population and escalating costs. Expenditure on higher education (provided in the regular institutions) is bound to be high, particularly in the context of diversified courses ; professional and technical courses, especially, are highly expenditure-oriented compared to general types. The average expenditure of educating an arts/commerce student over a three year period will be around Rs. 6000-7000 (out of which not even 25 per cent is met by way of student fees ; a science student too will be sharing the expenditure to the same extent, though the expenditure is bound to be higher in his case). In the engineering colleges in Maharashtra, the per student expenditure is worked out at Rs. 30,000 over the four-year period, and that on a student undergoing medical education at Rs. 1.1/2 lakhs over the five-year period (The actual fees paid by the student for this category of higher education is not proportionately higher). The subsidy a student gets at the postgraduate stage is also quite substantial.

Recent years have witnessed an escalation in expenditure for college/university education due to a rise in the salaries of teachers (constituting about 60 per cent of the maintenance expenditure) and outlays on buildings, hostels, laboratories, library books and journals, equipment and other research and teaching tools. Over the years, however, the proportion of expenditure borne directly by the students has declined steeply. The contributions from other private sources, such as by way of donations, endowments, gifts and other charities for higher education too have constantly been on the decline, largely owing to the inertia of the institutions in tapping this source, the increasing expectation (or dependence) on the Exchequer of the Welfare State and/or due to high inflation; heavy taxation, extension of public regulation, control and ownership of all forms of assets, and so on. The private sources of finance for higher education including fees have, in short, ceased to make any appreciable contribution to higher educational development.

With the decline in contribution of fees and drying up of private munificence, and the fast rate of rise in annual expenditure of universities and colleges, the major responsibility of financing higher education has fallen on the public source of finance, i.e. the Government. The policy of expansion has already meant the Public Exchequer sharing the expenditure upto 75-80 per cent, the rest being met by fees and other private sources. The gap between the fees paid by students and the quantum of expenditure required to be incurred on them, has been getting more pronounced from year to year, particularly on the side of science, engineering, medical and other technical courses. As Gore has rightly pointed out, the more expensive the course of study one pursues, the greater is the Government subsidy. The fees charged by colleges/universities are set much below any plausiable estimate of what it costs to educate a student, and there is utter lack of rationale in the present arrangement. There is no provision, under the present pattern of financing, for occasional revision of the rates of fees, if and when there are notable changes in the overall price levels. The same is the case in respect of hostel and other services of the higher educational institutions which are highly subsidised. The mixed fee-subsidisation system is gradually changing into a near pure subsidy system, and the financial dependence on the Government is almost complete.

In recent years, much of the debate as to the future of higher education has revolved around mainly the financial resources needed to match the increase in enrolment and escalating expenditure. There are already sure signs that Government funds for colleges/universities would become more and more scarce in the years ahead. Probably the likely growth of expenditure in colleges/universities had been underestimated by the policy makers—it has grown much more rapidly than on other educational levels. Also, measured in terms of per capita income, it is relatively more expensive to roll out a graduate in the low-income countries like India than in any of the economically advanced countries.

In short, we have not been successful so far, nearly four decades after Independence, to evolve a cohesive plan of action for the growth and financing of higher education. The inability of the Government now to meet the growing needs of the institutions and the financial squeeze that looms ahead make inevitable a reappraisal of the policy.

Expansion of higher educational institutions is not bad per se ; it might generate economies of scale by way of a reduction in the average cost of provision of higher education in colleges, universities and other institutions. However, these economies of scale will be wiped out if there is over-expansion. There is also an inverse relationship between over-expansion and higher educational efficiency. Over-expension can be achieved only at the cost of watering down quality. This has been witnessed in the case of many higher educational institutions especially in urban centres where they are concentrated. The result is overstretched universities and colleges, oversized classes and sub-standard buildings and equipment which are aggravated on account of poverty of funds. In the process, the human inputs of teachers required for the system has also been overlooked. The increase in the university/college population has not only meant worsening of the teacher-pupil ratio but also aggravation of the amenity gap. The present policy of higher education has in short led to lowering of standards, mismatch between expansion and availability of money, men and materials, and the 'haves' benefiting more than the 'have-nots' from the system.

## The Goal of Equality of Opportunity : After Thoughts

The other side of the coin is that after nearly four decades of experience with the attempt to promote the goal of equality of higher educational opportunity, serious doubts are being raised now about its actual implementation. The so-called higher educational boom, instead of equalising opportunities, has in fact legitimatised, or even aggravated, inequality over the years. Most of the seats in the existing higher educational institutions have been appropriated by those belonging to middle and upper income strata of society, leaving the vast masses out of the ambit of benefit. Nearly 80 per cent of our university/college entrants come from the top 30 per cent of the society. Those that really come from the 'poor' families, will not be more than 5 per cent of the total student population. The utopian hope of democratisation through higher education has thus failed to happen although higher education remained the locus of the myth of equality. This has got further exacerbated as the benefit of subsidy really has gone to students belonging to the well-off section of society. Everyone is entitled to the same amount of the generous public subsidy regardless of his/her capacity to pay. For the majority of the students it has meant money that their parents or they could well have afforded while for others, the minority, this is inadequate, and they are not therefore in a position to take advantage of university/college education. The main reason for keeping fees low in universities, colleges and other professional/technical institutions was to help the poor families and promote equality, but what has taken place is the monopolising of seats available in colleges and universities by the well-to-do classes in the society. The present arragement under which nearly two-third of the expenditure on higher education is met by public funds is neither equitable nor efficient. The privileged groups forget the fact that a good majority of their age-group population is unable to go to higher educational institutions. If we opt for a system where in the privileged group, which account for a majority in colleges, universities, IITs and other technical/professional institutions, meets a reasonable proportion of the expenditure instead of leaving the tax-payer to foot it almost fully, what is wrong with it ? Under the existing situation, to defend grants for higher education on the ground of social and economic equality is a monstrous perversion of the truth. Two-thirds portion of the grants go to "the haves". It is clear that the economic burden on the people may well require some adjustments. Perhaps a combined system of grants and loans, as is prevalent in many other countries, can be devised.

## Major Issues for Policy-makers

The inescapable conclusion from the developments during the last over three decades is that India will face severe problems in coping with the growing demand for higher education. Her march towards faster expansion, or democratisation of higher education seems to have got stalled in its tracks well before the journey is completed. At the same time, providing higher education in the existing institutions has been proving to be quite expensive. As the situation now stands, these institutions will not be in a position to accommodate all the people who seek higher education. The pressure of numbers has already drained out the vitality from the existing institutions ; today they look perniciously anaemic. The Government of India, in its National Education Policy Document (1986) has stressed, though belatedly, the need for taking urgent steps for protecting them from further degradation. Qualitative upgradation is the need of the hour, and not quantitative expansion, as far as the existing higher educational institutions are concerned.

However, in the extent situation, it is obvious that the demand for higher education is likely to rise. When technology was backward, the bulk of the population had to work for most of the time ; with advancement in technology, the leisure hours are bound to increase, and the people would like to avail of their spare time for upgrading their qualifications/skills. Also, with the arousal of the desire for material prosperity which has remained suppressed so far, and the realisation that it could be achieved through higher education, the pressure of equality of opportunity will gain momentum. For those demanding, and who are motivated, all obstacles to equality of higher educational opportunity will have to be removed. A major part of the pool of ability remains still outside the conventional higher educational system. "Equality of opportunity", stat s Sir Peter Venebles (who was the Chairman of the Planning Committee for establishing the Open University in the U.K.), "must provide the maximum degree of educational mobility through a diversity of institutions and upwards through a ...... variety of routes to a diversity of excellences, all of which are indispensable for the well-being alike of the individual and the community". It becomes necessary for the individual to find an institution or a higher educational programme that fits his particular characteristics and aspirations, and which is flexible. It is this which has to be built into the field of higher education in India if the needs of a large and diversified body of students are to be effectively met. Also such a system has to be developed which will make higher education not a middle and upper class privilege, but benefits all who desire to pursue it, whatever their family background.

Higher education, therefore, has to adapt itself to the increasing demands from various sections of the people. For this we ought to have alternative higher educational pathways ; we need to have an efficient but at the same time flexible system which makes possible for young people to learn while they work, i.e. combining learning and work. It should not however be aimed at substituting or replacing the existing formal system of higher education. Many individuals who cannot complete school education could still make very useful contributions to the society and could have creative lives of their own if there are alternatives. A properly motivated person, as Alvin Toffler observed, can learn anything he wants to learn without sitting in the classroom. The present higher educational system is based on certain assumptions which are no longer true, one of which is that there is a fixed body of knowledge to be learned, and that once you have learned this fixed information, you can then use it for the next 50 years because the world is going to be the same. This is no longer the case. There is a mismatch between what is taught in the conventional formal higher educational institutions and the needs of the people in the society. These institutions continue to be strongly tradition-bound, have resisted transformation and are too rigid and too institutionalised. They are preoccupied with producing graduates to fit into a world that is not going to exist when those young men get there. So much emphasis is placed on how to get bigger, and *not* how to change. As Sir Eric Ashby says they display what a biologist calls 'phylogenetic inertia'.

## II

### New Priorities : Distance (Higher) Education

It is in the above context that the role of Distance (Higher) Education becomes important. It has to be developed as an alternative system so that a wider section of the society desiring higher education will be benefited. Such an alternative outlet will ease the heavy pressure on conventional higher educational institutions, which in turn will enable them to arrest qualitative deterioration ; they will no longer relax academic standards to accommodate more and more students. The modern communication technology has placed at our disposal several instruments and methods, and by making proper use of them, we can see to it that an innovative (and quality) higher education is made accessible to a large majority of the people. The new education technology is changing the very nature of teaching and learning, the world-over, and the role of the teachers (and or educational institutions). If appropriately used, it is far more economical and is the only device which can cope with the knowledge explosion. Distance higher education (provided by open universities) can also cater to a new and sizeable number of student population, i.e. those other than the traditional ones composed of young people between the ages of 17-21 who attend traditional or conventional formal institutions. The experience of open universities in some other countries reveals that they are availed of mainly by in-service people who want to improve their qualifications, housewives, handicapped and invalid persons, and other disadvantaged groups. The conventional institutions may not be in a position to cater to these groups of people on a part-time basis, and in an efficient manner. Distance education can thus complement the formal higher educational institutions "by moving in where the latter is obliged to move out"

**Advantages**

Distance higher education through open universities represents what is at presents the most significant major innovation in many countries. It is a technique which is getting accepted the worldover as a viable alternative for reaching the deprived sections ; it uses extensively a combination of correspondence teaching and new (educational) technology such as radio, television, computers, etc. The Open University in the U.K., for example, is the best known, and extends genuine equality of opportunity for many people. It is a significant departure from the present conventional system ; it combines part-time study with full-time employment, and enables the students to spend their period of study in a different, more flexible way than in conventional regular types of institutions. It will offer opportunities for taking appropriate higher educational courses to those who could not avail of them earlier due to lack of opportunities rather than lack of ability, and that too at any period of their lives when they are so motivated instead of one initial period of full-time higher education. It can thus meet the large backlog of demand from adults for a 'second chance'. Many of the potential students, as if found in other countries, will be those who would have left school at an early stage. It will be genuinely 'open' in the sense that it will be without walls ; formal educational qualifications will not be needed for entry. Besides, women are significantly under-represented in the conventional colleges/universities ; distance education through open universities can rectify this long-continuing imbalance in the higher education system. In short, a diversified system of distance higher education can no doubt contribute to the enhancement of personal, social, economic and cultural standards generally. The talents of all classes of people can be developed through this new technique. There will not be any case of "wasteful negligence which allowed genius that happened to be born of lowly parentage to expand itself in lowly work." (Marshall). There is no question of offering a make-shift project inferior in quality to other conventional institutions or treating it as a dumping ground for those who cannot get themselves admitted in regular colleges/universities. If planned and implemented well, as for example in the U.K., West Germany, the U.S.S.R. and Japan, the students will treat it as good as, or even better than, the higher education provided in regular institutions. The open universities can also maintain close ties with industrial enterprises, public services and other institutions, vocational establishments etc., and relate some of their courses and training to the economic needs of the society—extending higher education where it is needed, and withholding it where it is not. There is also scope for inter-disciplinary studies and studies in non-traditional areas, which are socially relevant, to be built into the curriculum. It could be broadly based and of a multi-sandwich type. According to the eminent political scientist H.S. Ferns "Broad education with utilitarian objectives need not be a soft option." "High specialisation," he states, "is often a soft option representing an escape from the need to face the world and society and to contend with the confusions of human experience." Open universities can besides provide courses of an updating or refresher nature to those who wish to make a significant change in their activities. Teacher education programmes can also be arranged by the open university system especially at primary and secondary level. Distance education can contribute immensely to solving problems of mass illiteracy. This new form of extending higher education, besides, is less expensive. The average cost per student is found to be one-third of the cost in regular conventional institutions the worldover.

The following are some of the important identifiable *financial* advantages of distance education :

(a) The possibilities of ecomomies of scale is larger here as it rests on imparting instructions extensively to large numbers. Also the modern media of communication will enable a small number of competent teachers to reach more students and stimulate more response. When enrolment increases, there will be a continuing reduction in cost per student.

(b) Expenditure on academic staff will form a smaller proportion of total maintenance expenditure than they do at conventional institutions. In the latter type of institutions, the need is for a much wider range of teaching method as they rely on the lectures. The proportion of total expenditure allotted to personal or external professional research in distance (higher) education will also be smaller relative to conventional institutions, as also the expenditure on buildings, equipment and technical and administrative resources used by research. The deduction for these purposes will be quite substantial especially at advanced levels, thus increasing the return on higher education. As Charles Carter rightly observed, "Teaching and research in conventional universities, especially at postgraduate stages are like mutton and wool, joint products of the academic sheep ; and the academic sheep in regular universities would not be willing to do without this wool." He thinks, perhaps rightly, that "a nude sheep would make bad mutton." There is also the question of general library facilities. The open university library is meant to be a teaching library rather than a research library, and the expenditure on library facilities will be much lesser as compared to conventional universities.

(c) Another crucial difference is that students at the open universities are not required to be present on the campus. This means that the open universities will not be incurring periodical expenditure on students' cultural, recreational and other miscellaneous facilities; besides, the need for providing hostel accommodation will not arise. An almost similar situation exists with regard to providing staff quarters. As the number of open universities will be limited, there will not be the need for large campuses with all infrastructural facilities; considerable saving can be made as far as construction of buildings is concerned in the case of open universities.

The open universities will be required to incur expenditure mainly on the following items:

(i) Academic and non-academic staff who will be on the regular pay-roll—under the former category open universities will have Professors, Readers, Lecturers, Research officers, etc., and the latter category will consist of administrative staff, editors, proof readers, cartographers, designers, lesson-keepers etc. Besides the regular full-time academic staff, if needed, the services of outside competent teachers may have to be availed of on payment.

(ii) Despatching of reading and other materials (Postage).

(iii) Conduct of examinations.

(iv) Development of software and procuring hardware to use mass media and the appointment of supporting staff.

(v) Establishment of Library-cum-study centres, organisation of contact programmes, counselling service etc.

The above are the main items of expenditure on distance higher education through open universities. However, considering the vastness of the country, effective use of a multi-media presentation of information, by printed word. taped lectures and videotaped demonstration for individual instruction will be necessary. The 'non-salary' component is likely to be bigger than the 'salary' component in total expenditure. The per student expenditure may be a little high in the initial stages, but this is bound to decline gradually as more and more students enrol themselves and by judicious use of available resources.

## Provision of Adequate Finances

For meeting the items of expenditure given above, the main sources of income will be: (i) the Government (both Centre and State), and (ii) student fees (registration fee, tuition fee, examination fee etc.) A proper system of subsidisation needs to be developed based on certain norms of expenditure per student. The expenditure per student in some countries that have developed this new technique successfully, works out to about one-third of the expenditure in regular university system. It is ideal to have a system in India under which the students finance at least 45-50 per cent of the recurring expenditure; the rest should be met by Central and State Governments. As the participants in the programme are likely to be mostly employed, this should not cause much of a burden. At present, in some schools directorates of correspondence courses (attached to universities), nearly 45 per cent of the expenditure is being met by the students.

Distance higher education in the country has to be evolved according to a master plan, unlike as it happened in the case of conventional higher education. It is a good idea to have an open university for each State, but it should not be done in haste; care has to be taken to see that they have adequate support in the form of human and physical infrastructure and of course finance. There has to be some kind of a centralised body of distance higher education to coordinate the working of the programme in the country. Also adequate funding should be ensured to maintain quality. Government funds should not come from many agencies as is in the case of the existing higher education system wherein the need to manage and keep track of funds from so many different sources, subject to different rules and procedures, auditing and review, has created a lot of unmanageable problems.

There may be many difficulties besetting the growth of distance higher education. The size of the potential demand cannot be known initially, and the craze for conventional higher education is strong—people may resist change. But looking to the rapid and successful development of this system in many other countries, this new technique appears to be a feasible one. The use of multi-media instructional methods would no doubt mean building up of a new structure, and this would involve proper planning and implementation. All these obstacles to develop distance education may however prove to be illusory, provided that the system can offer programmes of study of a kind which will attract large numbers. The large scale operation will enable the system to achieve economies of scale. If the programmes are just borrowed from conventional universities and/or a simplification of existing university courses, the system is not likely to be successful. To achieve this, planning and imagination of a higher order, and of an innovative and new kind, is absolutely essential. The people to implement such a large scale system need not be large, but they have to be independent, enterprising and inventive and who know what they are doing. While recruiting the academic staff, one of the prime considerations should be the aptitude for producing reading materials. The reading materials produced (including books) by the Open University of the U.K. have become very popular even amongst those studying in conventional colleges/universities. The marketing of these materials has been entrusted there to a separate agency—the Open University Educational Enterprise Ltd. This could be done by open universities in India too. Besides, modern printing technology has made publication of books, journals etc., easy and economical. By making use of these devices, our open universities can develop reading/learning materials of an innovative nature, in different languages. These materials should be prepared in such a way that any normal student can study them in his home, and at his own pace. In short, every effort should be made to convince the public (and the employers) that the instruction imparted and degrees awarded by the open universities are as good as, or of equal status with, those offered by conventional colleges/universities.

As far as the provision of finance for distance higher education is concerned, it is better to lay down certain norms for it in the beginning itself. The financial question should in fact come before the critical planning decision is made, and not after. The devising of appropriate methods of financing (that takes into account the social objectives) should not be treated as a 'second-order' problem as it happened in the past in the case of the existing regular system of higher education. Proper attention has also to be paid to the down-to-earth problem of how to share the expenditure between the Government (i.e. the tax-payers) and the students. There has also to be a rational delineation of the respective roles of Central and State Governments as well as the beneficiaries of the new system, i.e. the students, with regard to the sharing of expenditure. All this would call for a radical departure from earlier strategies relating to the growth and financing of conventional universities/colleges. If this is not recognised in the initial stage itself, many perplexities may arise later, which will affect the very character and efficiency of the new system. Because this had not been sufficiently examined well-in-advance in the case of conventional higher education, it is in the midst of a financial crisis. Also considering the sheer size and complexity of the new system, its management will not be a simple administrative process amenable to the rigid rules of the Government, especially with regard to finances. The academic, financial and administrative autonomy of the open universities as well as their right to freedom to experiment should be guarded. There has to be a proper coordinating mechanism to reconcile such freedom with public provision of finance.

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# Finance of Distance Education

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Distance Education, in the form of correspondence courses, has been encouraged at Indian universities since sixties. In the context of management of this system, 'Finance' has been identified as one of the major components of management. In other words, proper pattern and quantum of financing is understood as an input of prime importance, especially, in the context of improvement to be brought about in different aspects of correspondence courses. Major attention should, therefore, be paid to the provision of appropriate financial inputs to the system. A bird's eye-view of the major sources of income for the system under different heads of expenditure, compared with the income raised under different heads, the per capita expenditure in relation to the income raised from students fees etc., become useful in chalking out alternative means of raising the required finances and also enabling a rationalisation and reorganisation of different aspects of the expenditure of the

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system so as to maximise benefits from the costs incurred. The institutional costs incurred per student for correspondence education have been very much cheaper (Biswal, 1979, and Pandey, 1980) than that for the regular system of higher education. However, as correspondence and regular systems are alternatives to each other there is an expectation that certain components of private costs such as fees and instruction related costs, may exhibit minor differences for in correspondence courses. A scrutiny of the private costs incurred correspondence system in relation to these of regular system may provide an understanding of present status of 'Finances' of correspondence courses and provide suggestions for improving financing of correspondence system. The studies conducted so far in the art of Finance of correspondence courses in the country, can provide a sound rationale for throwing more light on these issues.

Dutt (1978) compared average fee per student and average expenditure per student in Rajasthan, H.P., Panjab and Delhi Universities. The study revealed that only in the case of Delhi University the expenditure per student was higher than the fee charged per student. In the rest of the cases the position was reverse. The major areas of expenditure in all these universities had been—salary of teaching and non-teaching staff; expenditure on preparation of learning materials ; payment for PCP and library.

The unit cost analysis which was done by Biswal (1979) and Pandey (1980) revealed in general that the unit costs of correspondence courses were very much lower than those of regular courses in the case of all sample universities. Further, Pandey (1980)'s study which was more explicit with regard to such analysis revealed that :

—There was significant difference between two streams with regard to recurring income, correspondence courses supported themselves without government subsidy and mostly depended on students' contribution. However, with regard to nonrecurring income no difference was marked between two streams. On total income, there existed differences between two streams ;

—The differences in recurring and non-recurring expenditure of regular and correspondence education were not different although their heads of expenditure were not similar ;

—Significant differences existed between per student expenditure on direct-cost, indirect cost and total cost at enrolled and appeared level, whereas no significant difference was marked with regard to direct cost per student for pass level. However, there existed differences between per student expenditure on indirect cost and total cost at pass level ;

—There was no difference in terms of wastage cost per student at direct, indirect and total levels of two streams ;

—The direct cost per student (failure) was not significant, but indirect cost and total cost per student (failure) were significant between two streams ; and

—At all enrolled, appeared, passed and graduation level, the correspondence education was found to be more economical, as the total cost benefit per student was Rs. 2823.14 at undergraduate stage for the year under study (1978).

While commenting upon the less expensive nature of correspondence courses and the nature of the courses provided at present, Gupta (1978) had apprehended that 'the cheap education through correspondence only widens the economic inequality in India'. In his study Gupta (1978) remarked about introduction of courses which could strengthen the agriculture sector of the country.

Taking a clue from the above studies, the author has conducted a study of finance of correspondence courses of the Himachal Pradesh University, Simla, on the following component :

—Sources of income of the Directorate of Correspondence Courses (DCC) ;

—Expenditure of DCC by Function and object ;

—Annual receipts and expenditure of the DCC for different heads ;

—The private costs of correspondence courses ; and

—Comparison of private costs of correspondence courses with regular courses.

**Sources of Income**

The classification of income of the DCC has been done taking into consideration the annual budgets for the 5 years period from 1975-76 to 1979-80. They have been studied under two heads viz., internal income of the DCC and the contribution of students. The internal income of the DCC is raised through sales of prospectus and examination forms etc. Students' contribution to income is further classified into (1) instructional (tuition fees, postal charges, personal contact programme (PCP) and other allied charges), (2) administrative (admission fees, late fees and miscellaneous fees), and (3) incidental (youth welfare and newsletter).

From Table 1 it can be seen that the major portion of the income of correspodence courses has been raised through students' contribution. The yearwise analysis of income shows that the percentages of total income raised through this source over the years from 1975-76 to 1979-80 varied from 97.14 to 98.27. On the other hand, the percentage of total income raised through internal sources over these years, varied from 1.73 to 2.86.

Further classification of monetary positions under different heads shows that while the yearwise enrolment for the financial years 1975—79 remained within a range of around 6700 to 6900, their annual contributions for these years varied from Rs. 23.73 lakhs to Rs. 24.90 lakhs. As the student strength rose to 8252 during the financial year 1979-80 the total contribution went up to Rs. 35.5 lakhs. This highlights the positive relationship between students' strength and total revenue raised. On the other hand, the student's strength could not affect the generation of internal income of the DCC to any great extent. Particularly, in the years 1977-78 and 1979-80, while student strength was 6387 and 8252 respectively the income from internal sources remained Rs. 70 thousand each year. However, with student strength of 6732 during the year 1978-79 (which was lower than earlier ones), the internal income was as high as Rs. 73 thousand. In all, as the major portion of the DCC's income has been provided by the students' contribution, the institution might have been conscious about maintaining a high figure for enrolment every year.

### Expenditure of DCC by function and object

On the basis of availability of accurate facts about expenditure by function and object, the accounts of two financial years viz., 1978-79 and 1979-80 have been subjected to analysis. The total annual expenditure has been classified under three heads, viz. academic (personnel and non-personnel), administrative (personnel and non-personnel) and incidentals. The academic personnel costs include salaries of teaching staff, remuneration for writing lessons, correction of assignments and contact programmes, and leave travel allowances to teaching staff. The academic non-personnel costs consist of expenditure on printing of lessons, postage, books and periodicals. The administrative personnel costs include expenditure on salaries of non-teaching staff, lower sub staff, and leave travel allowances to non-teaching staff. The administrative non-personnel costs include expenditure on electricity and water, telephone, T.A., D.A. and other heads of expenditure. The incidental charges include expenditure on repair and maintenance of vehicles and machines and miscellaneous items.

With regard to the expenditure of DCC by function and object, a few points need to be examined. Such as, considering the nature of management of instructional processes, correspondence courses may put more emphasis on either administrative or academic aspects to the detriment of the other ; and the increase in student strength may result in an increase in total expenditure but not result in an equi-proporationate increase in expenditure under different heads. These queries have been examined on the basis of the following analysis of annual expenditure of correspondence courses for two years.

Table 2 presents data for the different heads of expenditure incurred by the DCC for Academic, Administrative and Incidental requirements for the financial years 1978-79 and 1979-80. The percentage positions of three heads of expenditures to the total expenditure for these years show that for both years they have remained more or less the same. That is, for academic expenses the percentage was around 61, for administrative expenses the percentage was around 36 and for incidentals the percentage was around 2. It is quite clear that the highest percentage of expenditure incurred was on academic expenses. Amongest personnel and non-personnel heads of expenditure for academic and administrative requirements, it can be observed that during both years the personnel expenditures were higher than those of non-personnel expenditures. The percentage of academic personnel expenditure varied from 63 to 65 per cent for two years whereas the percentages of administrative personnel expenditure were 66 and 76 for the financial years 1978-79 and 1979-80 respectively. On the other hand, the non-personnel academic expenditure viz., printing of lessons, books and periodicals were 35 and 37% of the total academic expenditures for these years respectively. Also, for the administrative non-personnel heads of expenditure viz., expenditure on electricity, telephone, T.A., D.A., etc., percentages of total administrative heads were 34 and 24 for the years 1978-79 and 1979-80 respectively. Taking into consideration the annual rate of growth in enrolment during these financial years, it can be marked that while the annual enrolment had grown at a rate 23.8% from 1978-79 to 1979-80, the annual expenditure for these years had grown at a rate of 20.1%. This shows that higher enrolment could cause higher expenditure on the part of the institution. However, there existed a slight disparity between the rate of growth of students and the rate of growth of expenditure. The fact can be checked further with regard to variation in per capita students' expenditure and its relation to the variation in students' strength. It can be seen from the table that during the year 1978-79, while the enrolment was around 6000, the per capita expenditure was Rs. 391.60. During the year 1979-80 the increase in enrolment (1564) was matched with a decrease in the value of per capita expenditure of around Rs. 30.00. This reflects that the rate of increase in enrolment could not match the rate of expenditure by the institution. Higher enrolment could have helped the institution to reduce the rate of expenditure per student.

Further analysis of per capita students' expenditure reveals that the rate of growth of enrolment has not equally affected all aspects of the expenditure. For instance, with regard to non-personnel administrative expenditures the money spent during 1979-80 (with higher enrolment) was smaller than the money spent during 1978-79 (with lower enrolment). That is, the expenditure of Rs. 2,99,779 for the year 1978-79 under this head came down to Rs. 2,38,494 during the year 1979-80. The nature of items of non-personnel (administrative) expenditures are such that it may be difficult to establish a clear-cut relationship between them and the rate of growth of enrolment. On the other hand, with regard to expenditure on administrative personnel aspects, the per capita expenditure went up during 1979-80 to Rs. 100.76 from 93.53 during 1978-79. This might be due to an increase in enrolment resulting in a greater number of employees being appointed and thus incurring greater expenditure. Whereas on all heads of academic expenditure a high rate of enrolment was associated with a lower per capita expenditure. The per capita academic expenditure of Rs. 240.20 during 1978-79, was reduced to Rs. 221.77 during 1979-80. This reflects that a clear relationship was established between the rate of growth in enrolment and academic expenditure.

## Income and Expenditure of DCC by Major Heads

With regard to financial management, it is expected that there should be proper balance between the income and expenditure of the institution. In this respect, an attempt has been made to examine whether such a balance was maintained in the case of the correspondence institution—keeping in view the details of income and expenditure of two financial years (1978-79 and 1979-80). In the university accounts, it could be found that only for three sections viz., postal charges, PCP and allied activities and newsletter, the amounts of receipts and expenditures were stated categorically. While the analysis has taken into account these factors as specific ones, the income and expenditure on other heads have been analysed under the category of other heads.

Table 3 presents data regarding financial position of the DCC for the above two years. This indicates that for both years, the income of the institution was more than the expenditure. During the year 1978-79 the financial position was marked by a total surplus of around Rs. 1.36 lakhs. In the subsequent year (1979-80), a surplus of around Rs. 8.70 lakhs existed. For the year 1978-79 the percentage of total expenditure to total income was 94.62, whereas for the next year it was 75.81. However, the income and expenditure figures under different heads did not match. For instance, surplus positions were marked on postal charges, PCP and allied activities and newsletter heads for both years. It shows that the university treated correspondence courses as a source of additional income. Unlike formal stream which mainly depended on the grants from governments, the correspondence system solely depended on students' revenues. The more dismal picture was that whatever income was raised from students under specific heads could not be spent for the stated purposes. Had it been spent for stated reasons, it could have added to the efficiency of the functioning of the system. Further, it could be noted that with an increase in students' strength the per capita expenditure has come down. This indicates that there was no proportionate increase in expenditure under different heads. Certain heads of expenditure (e.g. teaching personnel, administrative expenses etc.) should increase in proportion to the increase in enrolment to maintain quality of services offered. A reasonable step would be to maintain per capita expenditure irrespective of enrolment.

## Unit Private Costs of Correspondence Courses (1980-81)

The private costs of correspondence courses were classified into two sub heads, viz., tuition costs and non-tuition costs. The tuition costs included tuition fees, admission fees, examination fees, registration fees and other fees. The non-tuition costs included students' expenditure on boarding, lodging and transportation and instructional related items. The instructional related items included postal charges, purchase of books and stationery, private tuition and miscellaneous. The private costs of correspondence courses did not include students' expenditure while at their places of residence. Expenditure incurred by students for boarding and lodging during their visits to DCC/attendance in PCPs and during their appearance in examinations in outside places is included as part of private costs. Also, miscellaneous charges on students' clothing, necessities, entertainment etc., were not included in the private costs of correspondence courses. It was so decided as unlike most of the regular course students, the correspondence students reside at their homes and had they not continued their studies they would have borne such expenditure themselves. The total amount of money spent by sample students for different courses were divided by the total number of students of respective courses. The unit private costs of correspondence courses were calculated accordingly.

With regard to private costs of correspondence students it can be hypothesised that depending on the differences in nature of the instructional processes in different courses, there may exist differences in private costs for students of different courses. This has been examined in the following taking into account unit private costs of students of B.A., M.A., M.Com., and M.Ed. courses under different heads. A questionnaire was used for collecting data on different aspects of private costs. The sample sizes of different groups of DCC students were : B.A., 50 ; M.A., 112 ; M.Com., 69 and M.Ed., 210.

It can be observed from Table 4 that the total unit private costs (UPC) of correspondence students vary from one course to another. The sequential arrangement of the UPCs for different courses shows that at current price level for 1980-81, the UPC for M.Ed. course students was Rs. 1570.80, the UPC for M.Com. course students was Rs. 1410.50, for M.A. students it was Rs. 1181.85 and for B.A. students it was Rs. 763.05. Further classification of different heads of student expenditure reveals that the major portion of total expenditure was incurred on non-tuition cost which varied from 56.49% and 67.77% for different courses. On the other hand, under the head of tuition costs, the percentages of total expenditure for different courses varied from 32.23 to 43.51. In this context, the M.Ed. and M.Com. courses had nearly similar figures for tuition costs being Rs. 602.40 and Rs. 610.00 respectively. The M.A. course had tuition costs of Rs. 514.20. The B.A. course had the lowest tuition cost of Rs. 268.80. Amongst non-tuition costs the highest percentage of expenditure for all courses remained boarding, lodging and transportation expenditure. Further, in the case of M.Ed. and M.Com. courses, the expenditure under this head was quite high (Rs. 736.20 and Rs. 465.45, respectively) in comparison to the expenditure for M.A. and B.A. courses under this head (Rs. 333.50 and Rs. 344.50, respectively). The reason may be that unlike B.A. and M.A. courses the attendance in PCP was made compulsory for M.Ed. and M.Com. courses. Moreover, the duration of PCP's for the M.Ed. course was 30 days in a year with 2 sessions of 15 days each per semester.

For M.Com. course it was only 2 weeks in a year. This might have caused the higher expenditure for M.Ed. course students as compared to M.Com. students. It can be further observed that amongst boarding, lodging and transportation expenditure, the percentage of expenditure on transportation remained higher than that for boarding and lodging for M.A. and M.Com. courses. The reverse was the case for M.Ed. and B.A. courses. The reasons for such variation may be due to the venue arranged for PCPs and examination centres in terms of distance and transportation facilities available.

With regard to the average instructional related costs the M.Com. and M.A. courses had higher amounts (Rs. 343.95 and Rs. 323.65, respectively) in comparison to those of M.Ed. and B.A. courses (Rs. 232.20 and Rs. 160.75, respectively). Of course, the difference was not much in the case of average postal charges incurred by the students of different courses, these varied from Rs. 27.60 to Rs 33.60. Only with regard to average expenditure on purchase of books, stationery and private tuitions did the M.Com. and M.A. students spend higher amounts (around Rs. 291 and Rs. 271 respectively) as compared to M.Ed. and B.A. students (Rs. 145 and Rs. 120, respectively). Even though the average expenditure under the head of 'any other', like borrowing charges, membership in library etc., was smaller for M.A., M. Com. and B.A., courses (Rs. 19, Rs. 22 and Rs. 14, respectively) the expenditure of M.Ed. course under this head was quite high (around Rs. 56).

From the above presentation it can be deduced that the highest UPC incurred for M.Ed. course might have been because of the highest amount of tuition fees and the highest expenditure on boarding, lodging and transportation. Of course, the UPC of M. Ed. and M.Com. courses were very close to each other. Comparing the UPC for M.Com. and M.A. courses, it can be commented that the UPC for M.A. course was found to be lower than that of M.Com. course because of two reasons viz., the lower rate of tuition costs for M.A. (Rs. 514) and voluntary attendance provisions in the PCPs. As there was not much difference between the instructional related costs for M.A. and M.Com. courses (Rs. 324 and Rs. 344, respectively) it can be assumed that had the tuition costs for M.A. courses been equal to that of

M.Com. course and had the attendance at PCPs for M.A. courses been made compulsory there would not have been much difference between the UPC for M.A. and M Com. courses. In the case of the B.A. course it can be observed that on all the heads of expenditure this course's position was found to be the lowest. The trend of expenditure for this course had a similarity to the M.A. course on one point, viz., expenditure on boarding, lodging and transportation.

## Comparison of Unit Private Costs for Correspondence and Regular Courses

Another point that has often been raised with regard to UPC is that depending on different requirements of formal education and correspondence education differences may exist between different heads of UPC. The extent to which such differences were marked between them have been examined in the following :

For the purpose of comparison between UPC for correspondence and regular courses, the UPC for regular M.A. and M.Com. course students have been analysed taking into consideration the annual expenditure students during the year 1981-82. The private costs of regular courses had two sub-heads : tuition costs and non-tuition costs. A questionnaire was used for the purpose of data collection. The sample respondents were 50 final year M.A. students and 18 final year M.Com. students of teaching departments of the H.P. university.

The tuition costs comprise tuition fees, admission fees, examination fees, other fees and late payment or fines (if any). The non-tuition costs included expenditure pertaining to (a) boarding, lodging and transportation (residential fees, food charges and transportation expenses), (b) instructional related costs (books, dress meterial, etc. necessities entertainment and any other like tea, snacks, smokes, etc). The day scholars' expenditure under the headings of house rent and food charges and miscellaneous items other than tea, snacks, etc. were not included in students' private cost for higher education. This was decided on the basis of the logic that had the day scholars not continued their studies and stayed with their parents, the parents could have borne such expenditure, whereas, the residents of university or non-campus hostels/rented houses needed to spend money on such heads because of their stay on/near the Campus. Their stay was specifically associated with university education contribution to the revenue of the university and certain other expenditure incurred by the students were not entirely borne by students themselves. There were provisions for financial assistance by the universities/governments for students in the form of scholarships and freeships. Substraction of such amount from total amount of expenditure was identified exclusively as private costs of students. The total amount of money spent by the students included in the sample was divided by the number of the sampled students and UPC of the regular students was obtained accordingly.

The unit private costs as classified under subheads have been presented for both the stream students. The data of correspondence students was collected for the year 1980-81, whereas the data of regular students was collected for the year 1981-82. It may be stated that for the sake of comparison, the price index of one particular year is to be referred. It was decided to inflate the unit cost expenditure of correspondence students from the current price of 1980-81 to the current price of 1981-82. The DCC did not change the tuition fees for these two years. It was needed to inflate the expenditure related to non-tuition costs only. For this the inflation rate of urban price from 1980-81 on 1981-82 was referred (Indian Labour Journal 1982). The rate of 12 monthly average price index was Rs. 409 in May 1981 and it reached to Rs. 459 in June 1982. Following the rate of inflation of .122 per rupee per year the inflation figures for different comparisons of private costs of both the streams were done accordingly.

From Table 5 it can be seen that in the case of both courses viz., M.A. and M. Com., the regular streams, the UPC, was higher (Rs. 3800 and Rs. 6172, respectively) than those of correspondence stream (Rs. 1263 and Rs. 1509, respectively). While looking at different components and sub-components of the UPC it can be marked that in the case of tuition costs, the correspondence students were paying higher amounts which were in comparison to the payments made by regular students. The reason for this may be that because of extra charges made for PCP and postal services from correspondence students the tuition costs for them were higher than those for regular course students, On the other hand, whatever major differences were marked between the UPC of these two streams, were mostly accounted for by different components of non-tuition costs. As most of the PG students were residents of hostels or rented houses for the whole academic session, their expenditure on boarding, lodging and transportation was higher than that of correspondence students. The expenditure of correspondence students on this head was restricted to their short stay in the university campus/ PCP centres or examination centres. As the figures read, the expenditure of regular M.A. and M.Com. students was Rs. 1799 and Rs. 3215 respectively ; whereas the correspondence stream M.A. and M. Com. students expenditure on this head was only Rs. 386 and Rs. 522 respectively. Miscellaneous expenditure for items like clothing, entertainment etc., for regular stream students was incurred as part of their total expenditure. Expecting that on some of these items of expenditure of correspondence students which most probably be very small in most cases, the expenditure thus incurred has not been taken into consideration. However, this was one of the means of increase in total expenditure for regular course students. As it can be seen from the table the UPC for correspondence M.A. and M.Com. students were Rs. 1315 and Rs. 2130 respectively.

Considering the nature of expenditure which was specific to regular stream students staying away from home (like boarding, lodging. and miscellaneous expenditure) the question of comparing its similarities with correspondence students seemed to be not very essential. On the other hand, as both the streams are alternatives to each other in academic sense, it can be expected that the expenditure of students of both the streams on istruction related costs may be similar. In this context, it can be varified from the table that the instruction related expenditure for regular M.A. and M.Com. students (Rs. 462 and Rs. 529, respectively) was higher than that for correspondence M.A. and M.Com. students (Rs. 363 and Rs. 386, respectively). This leads to the conclusion that unlike regular course students, the correspondence course students had not spent much on instruction related needs, especially, in the case of purchase of books. This may be because of the supply of exhaustive lesson scripts, the students of correspondence courses might not have felt much need to purchase books as compared to regular students.

TABLE

**Classification of Income (In Rupees) of**

| *Financial year* | *Sources of Income* | *DCC Internal Income Sales of prospectus and Examination forms* | *Students'* | | |
|---|---|---|---|---|---|
| | *Students strength* | | *Tuition fee* | *Postal charge* | *Contact programme and other allied activities* |
| 1975-76 | 6796 | 41,876.00<br>[1.73%] | 12,92,462 00<br>[62.04] | 2,50,005.00<br>[12.00%] | 5,40,705.00<br>[25.96%] |
| 1976-77 | 6730 | 55,161.00<br>[2.17%] | 14,69,610.00<br>[62.68%] | 2,80,144 00<br>[11.94%] | 5,94,979.00<br>[25.38%] |
| 1977-78 | 6887 | 69,953.00<br>(2.81%) | 13,99,196 00<br>(63.03%) | 2,65,373.00<br>(11.94%) | 5,55,722.00<br>(25 03%) |
| 1978-79 | 6732 | 73,003.00<br>(2.86%) | 14,80,551.00<br>(65.53%) | 2,78,207.00<br>(12.31%) | 5,00,584.00<br>(22.16%) |
| 1979-80 | 8252 | 69,687.00<br>(1.92%) | 19.45,075.00<br>(59.92%) | 5,53,375.00<br>(17.06%) | 7,47.168.00<br>(23.02%) |

1

D.C.C. from 1976-77 to 1979-80

| Contribution | Administrative | Incidental | Total | Total |
|---|---|---|---|---|
| Total | Admission fees, late fees if any and miscellaneous fees | Youth welfare and News-letter | | |
| 20,83,172.00<br>(100%)(87.80%) | 2,34,756.00<br>(9.89%) | 54,629.00<br>(2.31%) | 23,72,557.00<br>(100%)(98.27%) | 24,14,433.00<br>(100%) |
| 23,44,733.00<br>(100%)(94.17%) | 85,521.00<br>(3.43%) | 59,606.00<br>(2.40%) | 24,89,860.00<br>(100%)(97.83%) | 25,45,021.00<br>(100%) |
| 22,19,789.00<br>(100%)(91.72%) | 1,43,971.00<br>(5.96%) | 56,075.00<br>(2.22%) | 24,20,337.00<br>(100%)(97.19%) | 24,90,290.00<br>(100%) |
| 22,59,342.00<br>(100%)(91.21%) | 1,58,433.00<br>(6.39%) | 59,437.00<br>(2.40%) | 24,77,212.00<br>(100%)(97.14%) | 22,50,215.00<br>(100%) |
| 32,46,118.00<br>(100%)(91.38%) | 2,31,693.00<br>(6.52%) | 74,632.00<br>(2.10%) | 35,52,448.00<br>(100%)(98.08%) | 30,22,135.00<br>(100%) |

TABLE

**Classification of expenditure or D.C.C. by**

| *Finan-cial year* | *Head of Expenditure* | *Academic* |  |  | *Adminis-* |
|---|---|---|---|---|---|
|  |  | *Personnel* | *Non-personnel* | *Total* | *Personnel* |
| 1978-79 | Total expenditure | 9,49,854.00 | 5,17,579.00 | 14,67,433.00 | 5,71,382.00 |
|  | (Percentage) | (64.73) | (35.27) | (100)(61.59) | (65.59) |
|  | Per capita expenditure (N=6109) | 155.48 | 34.72 | 210.20 | 93.53 |
| 1979-80 | Total expenditure | 10,56,223.00 | 6,21,299.00 | 16,77,522.00 | 7,62,173.00 |
|  | (Percentage) | (62.96) | (37.04) | (100)(61.57) | (76.17) |
|  | Per capita expenditure (N=7564) | 139.64 | 82.13 | 22.77 | 100.76 |

2

**function and object (Amount in Rupees)**

| *trative* | | *Incidentals* | *Total* | *Rate of growth of annual expenditure (1979-80 over 1978-79)* | *Rate of growth of enrolment (1979-80) over 1978-79 financial year* |
|---|---|---|---|---|---|
| *Non-personnel* | *Total* | | | | |
| 2,99,779.00 | 8,71,161.00 | 53,750.00 | 23,92,344.00 | 20.1% | 23.8% |
| (34.41) | (100)(36.41) | (2.25) | (100) | | |
| 49.07 | 142.60 | 8.80 | 391.60 | | |
| | | — | | | |
| 2,38,494.00 | 10,00,667.00 | 46,500.00 | 27,24,689.00 | | |
| (23.83) | (100)(36.73) | (1.71) | (100) | | |
| 31.53 | 132.29 | 6.15 | 360.22 | | |

## TABLE 3

### Receipt and expenditure of D.C.C. by major heads 1978-79 and 1979-80 (Amount in Rupees)

| *Year* | *Items* | *Postal charges* (*1*) | *PCP and allied activities* (*2*) | *News letter* (*3*) | *Others* (*4*) | *Total* (*5*) |
|---|---|---|---|---|---|---|
| 1978-79 | Receipt | 2,78,207.00 | 5,00,584.00 | 37,481.00 | 17,11,987.00 | 25,28,239.00 |
| | Expenditure | 2,15,469.00 | 2,11,984.00 | —(0%)— | 19,64,891.00 | 23,92,344.00 |
| | | (77.45%) | (42.35%) | — | (114.77%) | (94.62%) |
| | Surplus (+)/Deficit (—) as % Expenditure of Receipt. | +62,738.00 | +2,88,600.00 | +37,481.00 | —2,52,904.00 | +1,35,895.00 |
| 1979-80 | Receipt | 5,53,875.00 | 7,47,168.00 | 46,704.00 | 22,46,460.00 | 35,94,207.00 |
| | Expenditure | 2,20,503.00 | 2,69,626.00 | —(0%)— | 22,34,560.00 | 27,24,689.00 |
| | | (39.81%) | (36.09%) | — | (99.47%) | (75.81%) |
| | | +3,33,372.00 | +4,77,542 | +46,704.00 | + 11,900.00 | +8,69,518.00 |

## Conclusion

The financial position of the correspondence system reflects that the major source of its income was restricted to the students' contributions. Unlike regular courses' finances, no subsidy was released through grants from governments or other public organisations for raising the income of correspondence courses. Usually, the university had to spend less amount of money for the maintenance of the correspondence system than the total amount of money raissed through the DCC. Even though there were needs for better organisation of instructional activities which could have demanded more expenditure, the university could not do so. There were several aspects of the system, such as guidance and information facilities for students, preparation of correspondence texts, library studies, PCPs, and assignment system, in which further improvements were to be brought about. For attainment of objectives of the system the university must make efforts for introducing new need based courses through correspondence system, providing regional study centre facilities and utilising other distance media facilities like Radio and Television. Such improvements would require utilisation of efficient manpower as well as more non-human resources, which in turn would demand more financial expenditure on the part of the university. In this regard it was opined by a few specialists contacted and some senior teachers that the university must take a positive stand regarding this matter. They suggested that the DCC need not be treated as a source for supplying its surplus revenues to the university. Instead, for strengthening the position of the correspondence system some new ways are to be evolved to raise the revenues through grants from the state and central governments.

The private cost analysis of students reflected that the expenditure for correspondence education came to be very much lower than that of regular courses. As stated by Sahoo (1985), it was one of the reasons for motivating major percentage of students from lower middle and poor income groups for correspondence education. However, there were a large number of dropouts who could find it hard to meet private costs, hence they dropped out of the system. Further, it might have been because of other financial pressures on correspondence students, that they

TABLE

**Unit private costs of correspondence**

| *Courses* | | *Tuition fees, admission fees, Examination fees, Registration fees and Other fees—Total* | *Non Tuition* | | |
|---|---|---|---|---|---|
| | | | *Boarding, lodging and Transportation expenditure* | | |
| | | | *Boarding & lodging* | *Transportation* | *Total* |
| M.A. | (1980-81) | 514.20 | 147.00 | 197.00 | 344.00 |
| | Price % | (43.51) | (42.73) | (57.27) | (100)(51.53) |
| | (1981-82) | 514.20 | 165.00 | 221.00 | 386.00 |
| | Price | (constant) | | | |
| M. Com. | (1980-81) | 601.00 | 179.55 | 285.90 | 465.45 |
| | Price % | (42.60) | (38.59) | (61.41) | (100)(57.51) |
| | (1981-82) | 601.00 | 201.45 | 320.90 | 522.25 |
| | Price | (constant) | | | |
| M. Ed. | (1980-81) | 602.40 | 401.20 | 335.00 | 736.50 |
| | Price % | (38.35) | (54.50) | (45.50) | (100)(76.03) |
| | (1981-82) | 602.40 | 450.10 | 375.90 | 826.00 |
| | Price % | (constant) | | | |
| B.A. | (1980-81) | 268.80 | 209.30 | 124.20 | 333.50 |
| | Price % | (32.23) | (62.76) | (37.24) | (100)(67.47) |
| | (1981-82) | 268.80 | 234.85 | 139.35 | 374.20 |
| | Price % | (constant) | | | |

4

**courses (1980-81) Amount in Rupees**

| *costs* | | | | | *Non-tuition* | *Grand Total* |
|---|---|---|---|---|---|---|
| *Instructional Related Costs* | | | | | | |
| *Postal charge* | *Purchasing books/and stationeries* | *Private tuition (if any)* | *Any other* | *Total* | | |
| 33.60 | 219.20 | 52.30 | 18.55 | 323.65 | 667.65 | 1181.85 |
| (10.40) | (67.75) | (16.15) | (5.70) | (100)(48.47) | (100)(56.49) | (100) |
| 37.70 | 245.90 | 58.70 | 20.80 | 363.10 | 749.10 | 1263.30 |
| 30.20 | 213.35 | 78.20 | 22.20 | 343.95 | 809.50 | 1410.50 |
| (8.79) | (62.03) | (22.74) | (6 45) | (100)(42.49) | (100)(57.40) | (100) |
| 33.90 | 239.40 | 87.75 | 24.90 | 385.95 | 908.20 | 1509.20 |
| 29.70 | 129.60 | 16.80 | 56.10 | 232.20 | 968.40 | 1570.80 |
| (12.79) | (55.81) | (7.24) | (24.16) | (100)(23.97) | (100)(61.65) | (100) |
| 33.30 | 145.40 | 18.85 | 62.95 | 260.30 | 1086.50 | 1688.90 |
| 27.60 | 99.40 | 19.80 | 13.95 | 160.75 | 494.25 | 763.05 |
| (17.17) | (61.84) | (12.32) | (8.68) | (100)(32.53) | (100) 67 77) | (100) |
| 30.95 | 111.50 | 22.20 | 15.65 | 180.30 | 554.50 | 823.30 |

## TABLE 5

Unit private costs of correspondence courses and regular courses (In 1981-82 price) Amount in Rupees

| | *Tuition Costs* | *Non-Tuition Costs* | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Courses* | *Total* | *Boarding, lodging and transportation* | *Instruction Related costs* | *Miscellaneous expenditure* | *Non-tuition Cost Total* | *Grand total tuition and non-tuition cost* | *Scholarship (if any)* | *Grand total per student expenditure* |
| M.A. (Regular) (1981-82 price) | 418.80<br>(10.48) | 1799.15<br>(50.29) | 461.90<br>(12.92) | 1315.40<br>(36.79) | 9576.55<br>(100)(89.52) | 3995.25<br>(100) | 195.25 | 3800.00 |
| M.A. (Correspondence) (1980-81 price) | 514.20<br>(48.51) | 344.00<br>(51.53) | 323.65<br>(48.47) | —<br>— | 667.65<br>(100)(56.49) | 1181.95<br>(100) | —<br>— | 1181.85 |
| (1981-82 price) | 514.20<br>(40.70) | 386.00<br>(51.53) | 363.10<br>(48.47) | — | 749.10<br>(100)(59.29) | — | — | 1263.00 |
| M. Com. (Regular) (1981-82 price) | 431.50<br>(6.84) | 3215.00<br>(54.73) | 528.60<br>(9.00) | 2129.90<br>(36.27) | 5873.50<br>(100)(93.16) | 6307.00<br>(100) | 134.20 | 6172.80 |
| M. Com. (Correspondence) (1980-81 price) | 601.00<br>(42.60) | 465.45<br>(57.51) | 343.95<br>(42.49) | —<br>— | 809.50<br>(100)(57.40) | 1410.50<br>(100) | — | 1410.50 |
| (1981-82 price) | 501.00<br>(39.82) | 522.25<br>(57.51) | 385.95<br>(42.49) | — | 908.30<br>(100)(60.17) | 1509.20<br>(100). | — | 1509.20 |

* Bracketed figures indicate percentages.

were not in a position to pay at par with regular students for purchasing books, stationery, etc. In this regard, it can be commented that the university should provide some financial incentives to the poor students in terms of fee concessions, scholarships, book bank system etc. In general, it can be concluded that there is a need for raising the efficiency of the present organisational system for the improvement of the correspondence education programme. In this context major emphasis is to be given on strengthening its financial position by raising the revenue through other sources than the students. Certainly, it would require a change in the policy of the university with regard to the financial management of the correspondence education programme.

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# 27

# Financing Distance Education

J.L. AZAD*

A glance at the Indian educational scene, as it has developed in the post-independence period, evokes mixed feelings of elation and despondency. We have spectacular achievements, particularly in quantitative dimensions, to our credit. We have also to reckon with dismal failures in certain vital areas. Although student enrolment increased from about 3 crores in 1951 to about 12 crores in 1984-85, the fulfilment of the Constitutional Directive of providing free and universal elementary education is still a distant dream. The dropout rates at the primary and middle stages of education persist at the frightening figures of 60 and 75 per cent respectively. In spite of the increase in literacy rates from about 17 per cent in 1951 to 36 per cent in 1981, the number of illiterates has increased more than four times : from 6 crores in 1951, 25 crores in 1981. If this trend remains unchecked, India will have the dubious distinction of having the largest illiterate population in the world by the turn of the century.

At the secondary and higher education stages, in spite of phenomenal expansion of educational facilities, only about 22 per cent of the age group at the secondary stage and a little less than 5 per cent at the university stage are enrolled in educational institutions. "The proportion is even more adverse in some regions, particularly for women, scheduled castes and tribes. Rural areas have been touched only marginally by higher education of quality." (Challenge of Education, 1985, p. 47) The minuscule population, that has appropriated to itself the bulk of available educational facilities at the higher education stage, is not always of the requisite intellectual calibre.

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The annual expenditure on education has increased from Rs. 114 crores in 1951 to about Rs. 7,500 crores in 1984-85—quite a formidable investment by a country like India, where almost half of the population lives in abject poverty. More than half of the educational expenditure is, however, spent on urban areas, although they account for only one fourth of the total population. Further, most of the educational institutions, particularly at the lower levels in rural areas, do not have even the modicum of physical infrastructure.

## Need for Distance Education

In order to bring about some semblance of social justice, it is imperative that this skewed distribution of educational facilities should be altered in favour of the traditionally deprived sections of the population. This can be done by utilising modern communication technologies, which "have the potential to by-pass several stages and sequences in the process of development encountered in earlier decades. In order to avoid structural dualism, modern educational technology must reach out to the most distant areas and the most deprived sections of the beneficiaries simultaneously with the areas of comparative affluence and ready availability". (National Policy on Education-22). Distance education is the only remedy to achieve these objectives.

## Characteristics of Distance Education

What does distance education mean ? Holmberg (1977) defines it as the various forms of study at all levels "which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from planning, guidance and tuition of a tutorial organisation. Distance education includes all those teaching methods in which, because of the physical separateness of learners and teachers, the inter-active as well as the pre-active phase of teaching is conducted through print, mechanical and electrical devices. Elements of oral tuition and group work (contiguous teaching or face to face teaching) belong here as auxiliary components."

In its application, distance education has come to acquire certain intrinsic characteristics that make it attractive also to people and society, who do not need it as a second chance study opportunity. These characteristics, according to Holmberg (1977), are :

(a) The applicability of distance education to large group of students as a kind of mass communication, particularly attractive at times, when educational institutions are over-burdened.

(b) The possibility of improving the quality of instruction by assigning the best subject specialists and educationists available to produce courses for large groups of students.

(c) The effectiveness of methods, proved by the students' acquisition of knowledge and skills.

(d) The economy of the large group approach and of the facts that the need for residential teaching is eliminated or diminished and that study can take place during leisure time.

(e) The possibilities of individualisation of the study pace and—to some extent—of study content.

(f) The students habit forming experience of work on his/her own, which is felt to develop independence and lead to greater autonomy than other types of study.

## Porgress in India

Distance education was given a concrete shape in 1962 with the introduction of correspondence education as a pilot project in the University of Delhi in 1962. By 1985, 29 universities have introduced correspondence education and it has been estimated that nearly 2 lakh students are getting instruction at various levels. This comes to less than 6 per cent of the total enrolment at the higher education stage. Further, there are vast variations in the enrolment in correspondence courses in different universities. Almost half of the units are academically non-viable, having enrolment of less than 2,500 each.

In order to give a spurt to distance education, the Government of India has set up the Indira Gandhi National Open University. A number of State Governments are also in the process of setting up open universities. The pioneering effort in this direction was, however, made by the Government of Andhra Pradesh, which set up an open university in Angust, 1982.

It would thus appear that distance education has yet to take strong roots in the academic soil of India. One can only hope that the position will materially change for the better with the emergence of the National Open University.

## Financing Distance Education

Before analysing the comparative cost—effectiveness of the distance education and the conventional education systems, it would be pertinent to mention some of the factors that circumscribe the validity of such comparisons. These are :

(a) Distance education, as it exists today, is predominently complementary to the conventional system, utilising the latter's academic and physical facilities. It would cost more, if it were to exist as a separate entity.

(b) The quality of instruction is also a factor to be reckoned with. In distance education, it is likely that the quality of the output would be uneven. This is more so because the students have to study, most of the time, on their own. Unless the quality of the output can be matched, it would be difficult to compare, with any degree of authenticity, the cost effectiveness of the two systems.

(c) The number of courses offered under the two systems also affect their costing patterns. To quote Kaye and Tumble ; (1981—pp. 222-23)

"The conclusion needs to be qualified before it can be applied generally. While distance learning system catering for high student numbers are cost efficient, their cost advantage is reaped at the expense of limiting the number of courses on offer. What evidence we have suggests that in high technology systems, the investment of resources in learning materials (where these are designed only for teaching at a distance) and the cost of establishing production and transmisson systems can only be justified on grounds of cost efficiency, if there are sufficient students to bring average cost down. At the higher educational level, where student numbers tended to be smaller, the results of such studies for the development of academic programmes would seem to be the following :

(i) the restriction to distance-learning systems' academic programme to areas where there is known to be significant level of demand (e.g. teacher training).

(ii) the development of courses in a wider number of subject areas, but with a severely restricted course choice in each discipline, thus forgoing the possibility of turning out graduates with a single honours degree.

(iii) a conscious decision to ignore comparative unit costs and to embark upon a programme for social or political reasons, or because it is the only way of fulfilling specific goals and needs (e.g. to reach previously deprived target population) irrespective of the cost".

**Review of Studies**

Subject to these limitations, we shall compare the cost-effectiveness of the programmes of distance education under the conventional modes of teaching :

Perraton (1981), discussing the educational uses of mass media studied the cost of the multi-media courses using radio in a few countries of Africa. His findings are given in the table below :

### Cost of Multi-Media Courses Using Radio

| Project & country | Date | Cost per enrolment in constant US $ 1978 | Educational level | Enrolment at the time of Report | Comparison with cost of alternatives |
|---|---|---|---|---|---|
| Malawi Correspondence College | 1978 | 160 | Secondary | 2880 | Cost per enrolment lower than school. Cost per graduate higher than day school but lower than boarding school. |
| South Korea Air Correspondence High School | 1977 | 64 | Secondary | 20000 | Cost per enrolment and per graduate lower. |
| Kenya | 1977 | 3 2 | Secondary | 790 | Cost higher than alternative. |
| Dominican Republic Radio Santa Maria | 1975 | 5 | Primary/ basic adults | 20000 | Cost of enrolment and per graduate lower than the alternative. |

A number of studies have also been made to compare the cost of educating students through the conventional and the open universities. Perry (1976-1) came to the conclusion that "however, one tries to make a comparison of the cost of educating a student in a conventional university and whatever basis one uses for making those comparisons, one is forced to the conclusion that education through open university is relatively very cheap." According to a crude estimate reported by Perry, the cost students in the U.K. Open University in 1973 was £ 2749 (which can be an over estimate) against a figure of £ 5250 per student in the comparable faculties of the conventional universities.

In another study, Wagner, Laidlow and Layard, in their paper on the U.K. Open University assumed a consistency in the quality of graduates produced by the U.K. Open University and conventional U.K. universities and on the basis of data available concluded that the Open University was cost efficient relative to conventional U.K. universities.

In another study, Wagner (1973) calculated the average recurring cost per equivalent undergraduate for the two types of universities. He took the total recurring costs divided it by the number of equivalent undergraduates. One of the problems in estimating comparable costs was that the conventional universities have to bear increased costs on teaching postgraduates. For this purpose, he applied the weightages to postgraduate costs indicated by the British University Grants Committee.

The following table sums up the comparative cost estimates for the open and the conventional universities. The figures for the Open University are for 1973 at 1971 prices and for the conventional universities for 1968-69 at 1971 prices.

**Average Recurrent Costs**

| Recurrent costs | Open universities | Conventional Universities |
|---|---|---|
| Equivalent under graduates | 10,162,000 | 284,784,000 |
| Average Recurrent Cost | £ 36,500 | £ 302,920 |
| Per equivalent under graduates | £ 278 | £ 940 |
| Capital Costs : | £ 300 for open universities<br>£ 1200 for conventional universities | |

In a similar study of costs at Costa Rican Universidad Estatal a Distancia, Rumble (1981-398) showed that the average cost per year of US $ 795 (at 1980 price and exchange levels), compared very favourably with those found in two of the conventional campus based universities, where they were $ 1,301 (Universidad) de Costa Rica) and $ 2,033 (Universidad Nacional).

Muta (1985-286) reported that the 'direct current expenditure (per student) of the University of Japan is 1/4, 1/3 and 2/3 of that of national universities, public universities and day programme of private universities'.........Otsuka (1984) reported that the direct current expenditure at the Radio and Television Universities in the Peoples' Republic of China is two thirds that of full time students and one third of part time students.

It may also be mentioned that comparatively speaking, the distance learning programmes are not only more cost-effective than the traditional teaching programmes, but they have shown a tendency to come down in the times to come. For example, according to Bates (1984-1)

> "AC-60 audio Cassette, containing one hour of material, can be delivered to an open university students for less than 50 pence. Similarly, a 25 minute television programme can be delivered on video cassette for 75 pence per student—or for just over $ 2 for an hours's material—if the student returns the cassettes for re-use at the end of the course. 16 K microcomputers are now retailing for less than £ 100, and a 48 K microcomputer at £ 125. A video disc player retails for under £ 400 and a video cassette player can be rented in Britain for less than £ 12 a month. All these prices will move lower relative to inflation—rather than higher in future. In comparison, print costs are rising faster than inflation and open university broadcast television productions were averaging over £ 35000 a programme in 1983".

### Opportunity Costs

The studies of the comparative costs of the various modes of distance education and conventional institutions relate only to the public expenditures. They do not take into account the opportunity costs i.e. the incomes forgone by the students undergoing education under a conventional system. According to an estimate made by Tunstall (1974—21-22), full time students at conventional universities cost the British economy around £ 200 million per annum. On the other hand, a student under the distance education system costs the economy very little in forgone output and is expected to make the same contribution to economic development as a student from the conventional universities.

In the Indian situation, however, the concept of opportunity costs has to be applied with caution. Here, the ever increasing unemployment and under-employment among the university educated persons, whether through the conventional or non-conventional systems, retards the growth of economy and, therefore, any calculation of income forgone would largely be an exercise in make-believe rather than an attempt at realistic calculation.

## Implications for India

The cost-effectiveness of the two systems notwithstanding, distance education is destined to make a major contribution in expanding educational facilities in India. The socio-political, geographical and academic compulsions in this country make it imperative that the distance education programmes should be expanded in a big way so that education can reach the masses of the people, who would normally have been deprived of education. This would necessitate a fresh look at the financial and management policies relating to distance education so that the system cannot only become cost-effective but also cost-efficient. We shall discuss below some of the policies and strategies that should guide our future programmes expansion of distance education.

The foremost consideration that should be kept in view is that any future expansion of distance education should be on the basis of a well thought out, integrated plan of development on **an all India basis.** This plan should take note of the developments under the conventional as well as the non-conventional systems of education. The present policy of opening correspondence courses at various universities, regardless of the potentiality of the catchment area, should be abandoned. No university, which can have a minimum enrolment of 5,000 students under correspondence education after a specified gestation period should be allowed to have these courses. Further, it is no use universities in the contiguous areas offering similar courses of studies and in the process, wasting scarce academic and financial resources.

(i) In order to plan for distance education, it may be desirable to set up a Central Board of Distance Education so as to work out an integrated, long term plan of development. This Board should study the academic requirements of the various regions and advise the UGC on setting up distance education courses in the universities. It should also over-view the progress of distance education and advise the universities in tackling the various problems pertaining to distance education.

(ii) We should be chary of introducing programmes, which cannot be continued with a fair degree of efficiency all the year round. The radio, T.V. and other electronic devices necessitate proper training of the teachers/operators to keep them operational. Further, they also require a constant supply of electricity and the easy availability of repair facilities and spare parts.

(iii) Educational T.V. (ETV) requires large investment of time, energy and scarce resources. It is, therefore, necessary that the investment should be made keeping in view the academic effectiveness of these programmes. It may be worth mentioning that a large number of ETV experiments in the United States have been evaluated in terms of student performance. Godwin Chu and Schramm (in Arnovo, 1976-50-51) reviewed 207 published studies that compared television teaching with conventional teaching. Of the 421 separate comparisons made in these studies, 308 showed no significant difference in examination score gains as a result of the different treatments, 63 showed higher gains for those getting ETV, and 50 showed higher gains for those getting traditional teaching. From this, Chu and Schramm conclude :

> "All these summaries show that in the great majority of comparative studies, there is no significant difference between learning from conventional teaching and that where there is a significant difference, it is a bit more likely to be in favour of television than of conventional instruction."

(iv) Although it has been established that distance education is less costly than the conventional system of education, the cost factor should not be the sole determinant for the introduction of distance education. If distance education has been considered as an **alternative** to formal system, it should be able to stand on its own not be a poor relation of the formal system. Distance education has to fill a void created by the ever-increasing demand for education and the incapacity of the formal system to meet it. In such a situation, the fact of its being costly should not be the decisive element in its expansion.

(v) Distance education should not be considered as a means of augmenting the financial resources of the university institution. It has been observed that, in quite a few universities, correspondence courses are considered as the money-spinning devices. Students are admitted without due regard to the academic facilities that can be provided to them. The result is that there are inordinate delays in the preparation of academic materials and the evaluation of response sheets from the students. Further, the personal contact programme and the library facilities are almost non-existent. It is no wonder that such shabbily organised courses yield revenues disproportionate to the academic returns to the students.

(vi) The distance education programme should not be considered as a poor relation of the formal system, with the universities dumping the undesirable elements of the academic staff on these courses. Futher, a sizeable proportion of the staff is on a part-time basis and such people cannot develop any organic relationship with their institutions. In order to accord a parity of prestige to the non-formal system, the academic staff should be on a full-time basis and should be eligible for all the privileges available to the regular university staff. In order to attract and retain highly qualified staff, they may be given some special allowances. All promotional avenues should also be open to them.

We may conclude the discussion by reasserting that distance education has a vast potential for growth in a country like India. It is much more cost-effective than the traditional system. It has also the capacity to democratise the system of education, which has shown a tendency to be rigid, elitist and traditional. To plan and implement distance education is, however, a challenging task. It requires lot of insight, forethought and managerial skills. We can only hope that our socio-political and academic system will meet this challenge more than half way.

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# Teaching of English in Distance Education

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This paper, which is based on an empirical investigation conducted by the author, envisages to analyse the efficacy of teaching English through correspondence. The study is confined to the teaching of English language at the first degree level and excludes postgraduate courses. The tools employed by Indian correspondence institutes to teach at a distance have been examined in detail. Responses received from a sample group of 100 distant learners and 43 teachers of English working in nine major correspondence institutes of the country have been taken into consideration to arrive at conclusions.

This paper is divided into three major parts. In the first part, a gradual shift in the emphasis on teaching English in this country since indpendence is traced in brief. This perspective helps us realize the changing needs of the society so far as English teaching is concerned. In the second part, various tools employed for teaching English through correspondence have been examined and their efficacy judged in relation to the students' demands.

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The final part of the paper deals with the conclusions and recommendations to make teaching of English through correspondence a better proposition.

## I

The teaching of English has undergone various changes through the years in this country. There was a time when great emphasis was laid on teaching (and learning) of English in our schools and colleges to "introduce" the English culture and language to the Indians. Right from the school level, English was the medium of instruction. Students read all subjects in English and wrote their answers in that language too. However, after a few years of independence, with the regionalization of medium of instruction, things have changed. Emphasis is now laid on the development of Indian languages. But this does not mean that English has lost its improtance. We all know that English has been continuing as the link language to coordinate us all. The faculties of science and technology, banking and legal systems, company management services still utilize English for their healthy growth. A good command of English language is considered an essential qualification for a prestigious job in the country. English language is continuing to be the pipeline for the flow of modern knowledge to us.

Various commissions, study groups and committees were appointed in the part to study the problem of English Language Teaching (ELT) and keep a balance between the needs and the methods of English teaching in India. A cursory glance at the recommendations of these bodies will give us the proper perspective.

When Macaulay advocated teaching of English in India, he wanted to impart "a knowledge of English literature and science through the medium of the English language." After independence, due to psychological reasons, people wanted to shun everything that was English and hence there was a sharp decline in the sphere of higher education. The University Education Commission (1948) under the chairmanship of Dr. S. Radhakrishnan, advocated the promotion of a national language—Hindi. At the same time, the Commission pointed out :

"English, however, must continue to be studied. It is a language, which is rich in literature, humanistic, scientific and technical. If under sentimental urges, we should give up English, we should cut ourselves off from the living stream of ever-growing knowledge."

So English was continued to be studied in high schools and universities, but emphasis was not given to English teaching at the secondary stage, with the result that the average student, who now entered the college was not in a position to follow the lectures in English or to read English books with fluency and pleasure.

The Mudaliar Commission again reviewed the position of English in 1951-52 and almost repeated the recommendations of the Radhakrishnan Commission :

> "......no student should be handicapped by the ignorance of a language...a full knowledge of English will be extremely useful for understanding the subject matter better. All these considerations lead to the conclusion that English should be given due position in secondary schools."

New approaches and researches in the field to ELT that were being done at that moment in the West, did not have any impact on the English teaching situation in this country till the fifties. In 1957, the All-India Seminar on Teaching of English redefined the aim of ELT in India and emphasized on the teaching of four basic skills of language teaching. This seminar also advocated the use of structural approach to the teaching of English instead of the then widely used grammar-translation method.

The Kunzru Committee (1957), The English Review Committee (1960), the Tarachand Committee (1961) and the First Study Group (1964) under the chairmanship of Prof. V.K. Gokak all emphasized the teaching of English since the regional languages had not been developed to replace English as a tool of language and as a medium of communication. All these committees pointed out that English teaching suffered in this country mainly for defective syllabi, lack of teacher training and hence emphasized on the training of English teachers so that English could be taught as an effective second language in this country. The Kothari Commission Report (1966) for the first time pointed out that a distinction had to be made between the teaching of English as a skill and teaching of English literature. It also recognized that English language is important for it is the 'library language' and serves as our 'window' to the modern world. So in 1967, the Central Institute of English, Hyderabad initiated teacher training programmes and held Summer Institutes for English teachers in collaboration with the UGC and the British Council.

The 2nd Study Group again examined the role of English in our country. In its report (1971) the Study Group reframed the future English teaching programme in India based on the following criteria :

> "(1) The role of English as a source language ;
>
> (2) The place of English as a 'link' with the outside world in the acquisition of new knowledge ; and
>
> (3) The changing conditions and the need to answer the problems created thereby."

But the change was too slow. Some universities changed the syllabi to accommodate the teaching of English language skills. Yet some universities had literature-oriented courses at the 1st degree level. Hence a National Workshop was conducted by the UGC in 1977 in collaboration with the Central Institute of English and Foreign Languages (CIEFL), Hyderabad to reform syllabus. This National Workshop on Syllabus Reform in English advocated for more need-based English courses at the first degree level. Special courses were also designed to meet the various categories of students. Bridge courses, Spoken English courses etc., were also recommended by the Workshop.

These recommendations were accepted by many universities and they have come round to frame syllabi accordingly. But some universities are still catering to their traditional fossilized curricula.

Thus the objectives of teaching English in this country have changed with the change of time. From being the most important language of the country at the beginning of this century, English has been reduced to a 'link language' and is aimed at to act as a 'window' to the outside knowledge.

## II

Now let us examine the teaching of English through correspondence. An investigation into the problem revealed that English is taught in the same manner in all correspondence institutes of the country. Since the institutes cater to the syllabi of the university to which they are attached, English syllabus meant for regular classroom students are taught to distant learners. Hence all the correspondence institutes utilize the same tools for teaching English that are used to teach a mother tongue, or history or economics or political science.

The principle of distance teaching, like the principles of teaching by other media, is rooted in the general laws of human learning, i.e. motivation, stimulation, assimilation and application. In India, these responsibilities are supposed to be carried out mainly through a composite process of (a) lesson scripts, (b) response sheet assignments, (c) personal contact programmes (PCPs) (d) radio broadcasts (if possible), and (e) audio-visual aids (if available). To know their efficacy as tools of teaching, it is worthwhile to examine each of these closely one by one.

### (a) Lesson Scripts

Lesson scripts or lessons are the mainstay of English teaching through correspondence in all institutes of this country. Lessons are supposed to motivate and stimulate learning in the distant learners, whereas assimilation and application are done by personal contact programmes and response sheet assingments respectively.

Indian correspondence institutes depend primarily on printed lessons due to lack of other teaching aids. Many correspondence institutes of the West use television, radio, telephone, video cassettes, films etc., to supplement their distance teaching through printed lessons. These additional media help the students in the following ways :

(a) the more media, the better the access to teaching material ;

(b) if something is perceived simultaneously through several senses, it is better learned and remembered ;

(c) the more media is used, the easier it is to set up external conditions favourable to each learning method ;

(d) the greater the number of media offering a specific subject, the easier it is for the student to learn through the medium of his choice.

Of course, there is no evidence to show that use of these additional media produce superior results. On the other hand, Peters (1977) found printed lessons more useful than television and radio teaching. A recent survery conducted by Holmberg (1985) reveals that out of 203 correspondence institutes throughout the world, 138 institutes mainly depend on printed courses only.

Lessons function as the principal tool of teaching in India. Before preparation of lessons, a Subject Committee is entrusted with the task of dividing the entire syllabus into suitable units keeping in mind the capability of the students. Experienced teachers from universities and colleges are then requested to write these lessons.

Correspondence lessons are basically a set of notes. They resemble the chapters of a book. But they are very different from a textbook. According to Holmberg (1967) "a textbook gives all relevant facts and—if it is a good textbook—it does so in a clear and logical way, but it does not teach, which we must expect a correspondence lesson to do. It guides and teaches by giving complete explanation with examples, by providing exercises of various kinds and by constantly referring to what the student has already learnt to master." Thus lessons should be so designed and prepared that they can teach the students the method of approaching a subject or topic and help them to understand the given topic on their own. They should stimulate and motivate them to learn further.

At this point, we may note that there is no one single correct method of writing a lesson for the distant learners for obvious reasons. A method which may be successful in one set of circumstances may prove failure in another. We cannot also copy the foreign format blindly. So the lesson writer must have the imagination and the understanding to be able to project himself into the situation of the students for whom he is writing. He has to visualize the points where the students might face trouble and accordingly solve the possible hitch. For this reason, preparation of a lesson for distant learners is quite different from preparation of a class room lecture for face-to-face teaching. A classroom teacher gets the feedback immediately in the class and accordingly modifies his presentation, but a writer cannot do so in case of correspondence lessons. So the explanations must be clear and lucid for an average student.

Here, it is useful to look at the reaction and responses of the teachers and students of correspondence courses. 43 full-time teachers of English working in nine correspondence institutes of the country were requested to point out the factors necessary to make an English lesson effective for the teaching of English. They responded as follows :

TABLE 1

**Factors necessary to make an English lesson effective**

| *Order of preference* | *Factors considered important* |
|---|---|
| 1. | Lesson materials should be graded before they are sent to the students. |
| 2. | Some intelligent and tricky questions should be put in the lessons to secure the interest of the students. |
| 3. | The writer should take the entrance behaviour of the students into consideration while planning the lesson. |
| 4. | Some level of attainment for the students should be set through the lessons. |
| 5. | While writing a lesson for undergraduate learners, the 2500-words list prepared by Michael West should be adhered to. |

A sample group of 100 students from all over the country belonging to nine institutes were asked to grade some basic requisites of ideal English lesson and they are order of preference as follows :

TABLE 2

**Requisites of an ideal English lesson**

| *Order of preference* | *Qualities considered ideal* |
|---|---|
| 1. | I want the lessons to be written in simple language. |
| 2. | It should be able to improve our knowledge of the English language. |
| 3. | The style must be conversational so that I shall feel the presence of the teacher while reading the lesson. |
| 4. | The lesson must contain all relevant points. |
| 5. | It should be examination-oriented. |

The author analysed about 46 lessons in English written for undergraduate distant learners prepared by six major correspondence institutes of the country covering prose, poetry, drama, short story, comprehension etc. This analysis revealed that almost all institutes follow a set pattern like (a) introduction of the author and his life ; (b) summary ; (c) study notes, hints and guidelines to difficult words and expressions ; (d) model questions and answers ; and (e) questions for response sheet assignments. Whereas some lessons were written in a very difficult language bordering on the style of research papers, others looked like notes dictated by a teacher. At no stage in any lesson was the interest of the students aroused to motivate them. There were very few cases of language teaching points through these lessons.

In short, these lessons were written without any sincere effort on the part of the writers and hence they failed to teach English in the proper sense of the term. A model lesson prepared by the author is appended at the end of the paper.

### (b) Response Sheet Assignments

Every lesson unit is followed by a set of questions for response sheet assignments. These assignments, theoretically, have many functions in the distance teaching system. (1) They help the teachers/students to know the progress made ; (2) Assimilation and application of learning is tested through these assignments ;

(3) They provide feedback to the writers to improve upon the lessons and to the student to know his progress ; (4) They act as a two-way communication between the teacher and the student in an otherwise lonely system ; (5) Assignments aim to develop autonomous learning by encouraging student activity ; and (6) They reduce dropouts from the distance teaching institute.

Each student has to complete his home assignments and submit them to the institute for correction and guidance. Many institutes have stipulated compulsory submission of a certain percentage of assignments. Usually the assignments are corrected and evaluated by the teachers of English at the institute (sometimes teachers from outside the institute are employed to do this work on remuneration basis) and again sent back to the students with suggestions for further improvement. The student writes his next assignment in the light of the suggestions received in the earlier lesson packet. This interaction between the teacher and the student develops a 1 : 1 teacher-student relationship, which is not possible in a classroom situation. The students are encouraged by constant guidance and instructions from the teacher on his assignments. Erdos (1967) reports of one incident, where a teacher through his perseverance in his guidance could change a recalcitrant learner.

In many institutes, most of the students fail to send the assignments in time. In these institutes, where there is a stipulation, students send their assignments at the fag end of the year to escape punishment. A large percentage of response sheets submitted by the students are not returned to them.

There has been a good deal of studies on the assignments and their importance in the distance teaching system and it has always been pointed out that respose sheet assignments are very important for the success of the programme. Taylor (1969) pointed out that students who submitted their assignments and were properly guided by their teacher did better in their examination than those who did not submit their assignments. Kelly (1963) found a direct relation between the dropout rate at the institute to the submission and evaluation of respose sheet assingments. Glatter and Wedell (1971) found that students are discouraged if the teachers do not give guidance through the assignments. Some students felt that the teachers' comments do not explain faults clearly and they do not appear to take personal interest in the students' progress.

For his research, when this author asked the teachers of English about the aims of questions of the response sheet assignments that they prepare, they pointed out that testing the students' comprehension of the subject comes first. Some teachers also aimed at developing general Englisn standard of their students through assignments. The author analysed the response sheets appended to the lessons and found that the questions more or less conformed to the university examination pattern. The originality of the student was never tested.

When the students were contacted and asked about the importance of response sheet assingments, 95% of the students believed that they were important and only 5% did not believe so. Those who considered assignments important thought so for the reasons tabulated below :

TABLE 3

**Reasons for considering assignments important**

| *Order of Preference* | *Reasons given by the students* |
|---|---|
| 1. | I get encouraged in my studies by knowing my progress through it. |
| 2. | I am able to know my defects and rectify them. |
| 3. | Teachers' comments help me to understand the topic well. |
| 4. | I feel that I am guided by my teacher in my studies. |
| 5. | I get preparation for the final examination though it. |
| 6. | It brings a sense of closeness between me and the teacher, which I otherwise miss. |

This author also collected a few *valued* response sheets from about ten students of correspondence courses and found that they were valued in a very careless manner. The tutors generally did not give any comments and suggestions on the body of the assignments. They simply gave a few tick marks and then awarded marks. Some of the answers of the assignments were found to be unvalued !

### (c) Personal Contact Programmes

Personal Contact Programmes are arranged by all correspondence institutes at places of large student concentration. The teachers of the institute (or outside teachers) provide face-to-face teaching to the distant learners. Yet this teaching is different from regular classroom teaching done in colleges in the sense that they provide a capsuled form of teaching. These classes sometimes supplement the instructions imparted through printed lessons. They also obviate the monotony of individual and lonely reading. Hence in these classes, explanation of general doubts of the students or rectification of a common error in teaching points are done. For drilling exercises in language skill, these classes can be utilized effectively but such utilization has not yet been done in this country. Students of correspondence courses have always been very enthusiastic about Personal Contact Programmes. 85% of the students interviewed by this author, agreed that contact programme classes are essential to understand a lesson in English, whereas 9% did not think so. The students who attended PCP said that they did so because of the following reasons :

TABLE 4

**Reasons for considering PCP important**

| *Order of preference* | *Reasons given by the students* |
|---|---|
| 1. | I can clarify my doubts there. |
| 2. | It gives me a chance to meet my teacher in person. |
| 3. | It gives me a feel of college life. |
| 4. | I can meet my other class mates. |
| 5. | The students get a type of get-together in PCP. |

Since the duration of the PCP is very short (about 7-10 days at a time), the students wanted the following activities in English classes of the contact programmes :

TABLE 5

**Activities considered necessary in PCP**

| *Order of preference* | *Activities necessary* |
|---|---|
| 1. | I prefer discussion of difficult points only (42 students) |
| 2. | Grammar should be taught in the PCP classes to make us efficient users of the English language (22 students). |
| 3. | I want the whole course covered in a nutshell (21 students). |
| 4. | The teaching should be examination-oriented (15 students). |
| 5. | I like lectures as are given in a regular college (14 students). |

Those students who wanted college type teaching in PCP were definitely ignorant of the working of PCP and correspondence courses. Perhaps they think learning is possible only through lectures. However, majority of the students wanted a judicious use of these classes to promote English language teaching.

### (d) Radio and Television

Radio broadcasts were utilized by some correspondence institutes to supplement their printed lessons. But the number of such institutes is very small. Educational television programmes are now telecast daily for one hour by the UGC called 'Countrywide Classroom'. But these programmes are not meant for any particular group of students. They cater to the general educational interest of the student community. The interest of the distant learners are not catered to by these 'countrywide classrooms'.

Radio broadcasts and telecasts are not effective tools of teaching because they are short and limited in time, presented at a fixed time, expensive and their availability is restricted. They are also considered one-way communication so far as feedback is concerned.

From a survey, it was found that where radio broadcast are available to supplement printed lessons, only 23% of the distant learners heard all the programmes and about 57% of the students missed all the presentations.

However, it was found that these radio broadcasts sometimes include the language skills of English, which comes to about one in a year's time. Hence such broadcasts do not really help the distant learners to learn the language. Spoken English exercise could well be taught through such broadcasts to obviate the absence of language laboratories for the English learners. But this author is yet to come across such an exercise on the air.

### (e) Other Audio Visual Aids

Use of audio visual aids like films, cassettes, video-tapes etc. have come to be recognized as legitimate educational instruments. But very few institutes in this country utilize them. These instruments can be employed usefully to teach Spoken English, recitation of poetry, and of dramatical performances. This aspect of educational technology is not yet fully utilized by the Indian correspondence institutes, except perhaps by a few Western Indian institutes.

## III

From the above discussion, it is evident that the teaching technology adopted by correspondence courses is pedagogically sound and the four basic skills of English language can also be taught through the media employed by different correspondence institutes. However, in practice, it is not being done. At the present moment, the teaching instruments (though very few) that are available to teachers and students of correspondence courses have not been adequately utilized to get the best results for the following reasons ;

### (1) Lack of Teacher Training

None of the teachers of English engaged in teaching through correspondence is trained to teach at a distance. Majority of the teachers are aware of the recent trends and developments in the field of ELT. But they are not in a position to implement the pedagogic principles effectively in their teaching instruments (like lessons, assignments and the evaluation of assignments etc.) because of lack of training in the language teaching technique at a distance. A few of the teachers have received training for face-to-face teaching. But this training does not seem to equip them adequately to teach English through correspondence.

### (2) Lack of Good Teaching Material to Suit Self-learning

As is revealed from the analysis of English lessons, it is found that often the lessons were written without much imagination. The response sheet assignments go on testing the students in the conventional university pattern of questions, which fail to imbibe learning. The feedback value of these assignments is never realized by our institutes.

### (3) Defective Syllabi, Textbooks and Examination Pattern

As pointed out earlier, Indian correspondence institutes cater to the syllabi and textbooks prepared for face-to-face teaching situations. The distant learners are subjected to examination meant for regular students. This system is not effective just as an omnibus cannot function properly with horses.

### (4) Lack of Motivation to Learn

Motivation is an essential factor for a self-learner like the distant learner. Many students take admission into correspondence institutes almost as a last resort. With their face-to-face teaching background, they fail to realize that teaching is possible through correspondence also. Hence they lack in proper motivation. Delay in despatch of lessons and return, of valued assignments also cause depletion in the level of motivation in the learner. Motivation to learn English in also on the wane in the country.

### (5) Educational Non-acceptance of the Correspondence Courses

The attitude of the majority of the academicians (including many teachers working in the correspondence system) is not encouraging. They do not believe that teaching and learning is possible through correspondence also.

### (6) Lack of Use of Audio Visual Aids

The listening and spoken skills of English language can best be learnt through audio visual aids. Though in many regular colleges, these aids are absent, the face-to-face contact with the teacher often balances the position. But in the correspondence system, the absence of the teacher coupled with the lack of audio visual aids make the situation worse. Hence these two skills are often neglected in the case of a distant learner.

## Suggestions for Improvement

Teaching of English through correspondence is not considered adequate at the present moment for the reasons enumerated above. However, things will definitely improve if the following two suggestions are followed :

### (1) The National Open University

The present correspondence institutes are attached to various major Indian universities and cater to their syllabi, courses and examination pattern. This was done in the past to give credibility to the system of distance education in the country at the initial stage. But now when more than thirty five institutes are offering courses through correspondence, things have changed. The universities with their traditional problems of on-campus students, teachers and teaching departments have very little time to spare for the correspondence institutes. The courses and examination pattern should be changed to meet the needs of the distant learners.

This can be done if the Indira Gandhi National Open University can take up the burden of distance education in the country. Like the Open University, London, it can run its own courses through the regional centres of the present institutes. It could bring respectability to the correspondence courses in this country like its counterpart in England. It can also give its own degrees and diplomas. Non-conventional courses can be easily opened under its aegis. This National Open University can also train the teachers in phases.

## (2) Teacher Training

. The teachers need specialized training in preparation of lessons, assignments, evaluation of response sheets for effective two-way communication, use of audio visual aids and engagement of personal contact classes. This aspect of distance teaching has been very badly neglected in this country. Except a few seminars, workshops nothing has been done in this regard. The Indira Gandhi National Open University can take an effective lead in this respect by instituting a course for teachers working in correspondence institutes.

## A Model English Lesson for Undergraduate Distant Learners

Dear student,

This is the third unit of lessons on the book "The Loom of Language" prescribed for your Paper I. I hope that you have already purchased a copy of the text book by now and gone through the contents prescribed in your syllabus. According to your syllabus, you are to answer five content-oriented questions from the prose pieces of this book. The answers should be short and precise, not exceeding three to four lines each. This requires a good deal of comprehension on your part of the topics. Hence I have tried to explain the topics dealt in this unit of lesson as much as necessary for you. You have to read this unit alongwith the text book. The words and phrases explained in the text have not been explained here again.

As you are also expected to answer some grammar questions testing your knowledge of vocabulary, sentence patterns and usages based on the prescribed text-books, I have given at the end of each topic the important grammatical points and solved the grammatical exercises given at the end of your book.(relating to the topics discussed.)

Now let us come to the first essay of this unit.

## The Need for Religion

After going through this essay, you will realize that this is a speech by Gandhiji given to a group of students. I do not want to introduce M.K. Gandhi to you. You know him well as the father of the nation. He was a great saint. As a leader of the nation, he has given advice on various aspects of life and society. This particular essay, as the title suggests, is on the need for religion in the present day society especially among the students.

Now, before giving you a summary of the topic, I give a list of comprehension questions. Try to find out the answers to these questions while reading the text or the summary in this lesson and underline them for your reference later.

**Comprehension Questions**

1. What, according to Gandhi, is the immediate need of India ?
2. Why do the Indians hide the truth ?
3. What is fearlessness and why is it essential ?
4. How does religious consciousness help a man to be fearless ?
5. Why does Gandhi feel that faith is gradually disappearing in the students.
6. What, according to Gandhi, should be the aim of education ?
7. How does book-reading only spoil the students ?
8. What is the main work of the teacher ?
9. How did religion help the great prophets in their lives ?
10. What is the need for religion in a man's life ?
11. How can a man attain fullness of life ?

**Summary**

Gandhi was often asked to point out the immediate need of India and he always the same gave answer. According to him, a proper religious spirit is the basic need for this country. He admits that we Indians have a religious spirit lying dormant in us. This spirit has made us fearful of various authorities. We are afraid to speak out our minds to our priests and teachers. As a result we try to hide truth from them. Lord Willingdon also found that the Indians were hesitant to express themselves and therefore advised that they should cultivate a sense of fearlessness But fearlessness does not mean that we shall not respect others' feelings. So Gandhi believes that if we are conscious of this aspect, we shall fear God. We can have faith that we have to fear God only and none else on this earth.

However Gandhi is sorry to find that faith is gradually diminishing especially in the student community. He is shocked to find that a Hindu boy does not know Rama nor a Muslim boy knows how to read the Koran. True education should give us a pure heart and if by being educated we are driven away from God, such education would not help us in the long run. Gandhi emphasizes that we must try to achieve God through service of humanity. He is aware that God is not in heaven but in every individual. So he advises that we must not distinguish between a Hindu, a Christian and a Muslim—because they are all men and in them there is God.

Mere book reading spoils the students, because they get their brains stuffed with bookish knowledge. Such useless knowledge often lead the students astray. So Gandhi wants that the teachers should guide their students properly, and feels that teachers' work lies not only in the classroom but also outside of it. But now the teachers have no time to give their students outside the classroom. Gandhi, therefore, emphasizes that unless the teachers are prepared to give their time to their students, to train their hearts, nothing can be done in this regard.

Religion has always helped great men in the past. Though great prophets like Buddha, Jesus, Mohammad were alone, they never felt lonely since they had their faith in God. Gandhi desires the same faith from the students for according to him no man can live without religion. It is like the breathing for a living man. So he says that even a man who does not acknowledge God or religion cannot live without religion.

Now-a-days it is a fashion not to believe in God or religion. But Gandhi is not able even to imagine a life without faith. His own experience makes him believe that a fuller and richer life is impossible without any belief in God. As a drop of water perishes if it is thrown out of ocean, similarly a man without faith in God does not live a real life with all its majesty.

## Solved Language and Grammar Exercises

A. **Correct Spellings**

|  |  |
|---|---|
| address | loyalty |
| audience | obedience |
| professor | persist |

B. **Matching the Words with Meanings**

| **Words** | **Meanings** |
|---|---|
| 1. spiritual | (a) of religion, not of material things. |
| 2. audience | (b) gathering of persons for the purpose of hearing a speaker. |
| 3. loyalty | (c) faithfulness to commitments or obligations. |
| 4. basis | (d) footing |
| 5. address | (e) formal speech or statement directed to a person. |
| 6. correspondence | (f) communication by exchange of letters. |

C. 1. The two opposing leaders are now contacting each other.

2. The workers feel that they are not getting adequate wages.

3. He is continuing with his studies even after leaving the college.

4. Hundreds of people perished in the earthquake.

D.

|  |  |
|---|---|
| 1. Pure | Purity |
| 2. Proper | Propriety |
| 3. Lonely | Loneliness |
| 4. Deep | Depth |

| | | |
|---|---|---|
| 5. | Immediate | Immediacy |
| 6. | Permanent | Permanence |
| 7. | Divine | Divinity |
| 8. | Intelligent | Intelligence |

E. 1. Desire (noun)—Desire leads to unhappiness.

Desire (verb) —He desires to be rich.

2. Grasp (noun)—He has no grasp on the subject.

Grasp (verb) —He grasped the meaning of the text.

3. Name (noun)—His name is Jayadev.

Name (verb) —The Planet Mars, is named after the God of war.

4. State (noun)—The name of our State is Orissa.

State (verb) —He has stated in his letter that he is not coming.

5. Spring (noun)—Spring is the best season.

Spring (verb) —The ship sprang its keel on a rock.

6. Stuff (noun) —This cushion is filled with some soft stuff.

Stuff (verb) —He stuffed (filled up) his head with bookish knowledge.

7. Time (noun)—I have no time to go to your place.

Time (verb) —The sports events are timed to suit the weather.

8. Witness (noun)—There is no witness in this case.

Witness (verb) —He witnessed a cruel accident on the road.

F. **Sentences using the phrasal verbs**

1. delight in—She delights in teasing small children.
2. insist on—Rama babu insisted on taking a receipt.
3. lie in—Women now-a-days generally do not lie in for long period of time.
4. stare at—The beggar stared at me.

G. **Sentences using the idiomatic expressions**

1. in general terms—The contract has been signed in general terms.
2. in a state of— After the accident, two boys were recovered in a state of unconsciousness.
3. in obedience to—In obedience to your orders, Mr. Rao joined his duties today.
4. to be on guard—We should be on guard against the evil designs of antisocials.
5. to have recourse to—He wanted to have recourse to the courts for justice.
6. to be sensible to—He was sensible to my advice.
7. to stand alone—All good and noble men stood alone in their fight against evil.
8. to drive a truth home—In this age of faithlessness, it is difficult to drive a truth home.
9. heavy odds—Mr. Nixon could not be re-elected because of heavy odds against him.
10. living faith—Gandhi had living faith in God.
11. Work-a-day life—In work-a-day life, it is not possible to enjoy real pleasure.
12. the ozone of life—Faith in God gives one the ozone of life.

H. 1. It is the answer true for all time.
2. Loyalty to the Governor of governors supersedes all other loyalty and gives an intelligent basis to the latter.
3. I have felt that teacher's work lies more outside than inside the lecture room.
4. The greatest men of world have always stood alone.
5. He had to suffer a lot for speaking the truth.

I. **Structures**

A. 1. Let us all unite and make this country great.

2. Let all our political leaders forget their past differences of opinion and live a pure life.

3. Let all the students indulge in enriching their heart alongwith their brain.

4. Let him go to the village ; it will do him good.

5. Let there be danger and suffering, yet I will support good and truth.

B. 1. He did neither go to the market nor did he read.

2. He is neither truthful nor honest.

3. He could neither read nor write.

4. Neither wealth nor other mateial possessions can give us happiness.

5. Neither the driver nor the conductor was hurt.

## Model Questions and Short Answers

**Q. 1. What should be the aim of education ?**

**Ans.** Education should bring about a change of heart. A pure heart is possible only through education. So Gandhi wants that true education must turn a student towards religion and God.

**Q. 2. How can a man attain fullness of life ?**

**Ans.** Just as a drop of water loses its existence if it is thrown out of ocean, similarly, according to Gandhi, a man without faith in God cannot attain fullness of life. So a man must believe in God and religion to attain fullness of life.

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## 29

# Teaching of Mathematics in Distance Education

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There are some special features of Mathematics teaching which have to be taken into account in Distance Education.

(i) The use of blackboards here is essential ; while in teaching of many other subjects, blackboards can even be dispensed with.

(ii) Mathematics is not just a systematic description of facts. Essentially it consists of axioms, theorems and proofs. One hour of teaching may require a number of sequences of deductions. To deduce Z from A, we may have to deduce first B from A, then C from B and so on, till we finally get the result Z. To understand a subsequent deduction, one must understand the preceding deduction. As such, student teacher interaction here is very important. A good teacher must continuously assess the feed-

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back from the faces of his students and must adjust his pace of teaching accordingly.

(iii) Mathematics uses a good deal of symbolic language and very little of ordinary language. This does create special problems for Distance Education in Mathematics.

(iv) Mathematics has also to be taught to students of physics, chemistry, biology, economics, engineering and management and special courses adapted to Distance Education have to be developed for these students.

However, Mathematics has been one of the most successful subjects taught by the Open University in U.K. This success has been achieved through a combination of excellent textbooks, radio and TV lessons, video cassettes supplied to the students, contact sessions, assignments and tutorials. All the means are carefully coordinated as follows :

A student receives a lucidly written, beautifully printed and illustrated set of lessons and assignments. He also receives a video cassette explaining the finer points and he sees this video cassette at his convenience. He then gets a radio and T.V. lesson strengthening his understanding of the lesson and submits his assignments and the difficulties he faces in understanding the lesson. The difficulties of all students are collected and explained in a subsequent T.V. lesson. His assignments are corrected and he receives further suggestions. There are also centres in important towns where library books, video cassettes, and transparency sets are available. The schedule of the various steps in the training in each lesson is strictly adhered to.

However, the success of the teaching programme has been mainly due to the dedicated band of faculty members who have been completely devoted to making mathematics teaching in Distance Education a success, who have been prepared to experiment and innovate, to write completely new lessons and prepare video cassettes and films. The success of the programme has also been due to a highly motivated band of students who consider mathematics as a very important discipline.

In India few Mathematics filus have been prepared. Almost no video cassettes and standard sets of transparencies on mathematical topics are available. Even not many good textbooks within the means of students can be obtained. Students are quite often dependent on made-easy books, containing solutions of standard problems usually set in university examinations. The examination system itself is a great bottleneck inhibiting experimentation and innovation.

For Quality Distance Education in Mathematics, we need a National Centre for Production of Curricular Materials. These materials should of course also be useful for normal university departments. However, the selection of persons to man this Centre is very crucial. We do not require a few experts to spend a few hours in drawing up syllabi and then leave the task of preparing curricular materials to a group of average persons.

We need some experts to spend at least four or five years for this task. These experts have not to be experts in specialised fields of research for whom teaching is a secondary activity. These experts have to be experts in teaching, experts in good textbook writing, they have to be experts in preparing films, video cassettes, etc. They have to be dedicated teachers and their reputation should depend on the course materials they produce and not on the research papers they write.

The success of Distance Education will depend on developing an ethos in our country where development of innovative curricular materials and excellence in teaching is given at least as great importance as publishing of papers. In fact for Distance Education personnel, research has to mean research in preparation of new materials.

Preparation of new curricular materials in Mathematics for Distance Education should be taken up as a National Project and persons making a success of this project should get even more recognition than persons publishing research papers.

Distance Education of Mathematics has to be taken up as a challenge. This challenge can be met by the selection of the right type of persons and then giving them sufficient resources and initiative in implementing their programmes.

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